THE LANCET.

VOL. I.] LONDON, SATURDAY, DECEMBER, 29. [1827-8.

LECTURES

ON THE

THEORY AND PRACTICE OF MIDWIFERY,

DELIVERED AT GUY'S HOSPITAL BY

DR. JAMES BLUNDELL.

LECTURE XII.

Preternatural Labours.

THE cases of preternatural parturition, in a view to our remarks upon them, may be commodiously separated into two orders, namely, those in which the operation of *turning* becomes requisite, in order to bring away the child, and those cases in which this operation is not required; and we will, if you please, commence with the simpler cases,—those, I mean, in which turning is not necessary to the child.

The preternatural cases not requiring the operation of turning, consist principally of those here demonstrated,—the presentations of the *feet*, the presentations of the *breech*, and those presentations which, of *mixed* nature, partially partake of the characters of both.

Foot or crural presentations.—When the feet of the child are lying over the centre of the pelvis, the presentation is made out with certainty only after the os uteri has been thoroughly expanded, and the membranes have been broken, and the liquor amnii has been discharged. If at this time you examine with a moderate degree of attention, the feet, naked under the touch, may be recognised with facility; unless, indeed, with all powerful ignorance or negligence you confound the hands and arms with the legs and feet, to which when swelled they bear some resemblance. Even before the disruption of the membranes, and the complete expansion of the os uteri, if you make an examination during the absence of pain, when the membranes readily recede under the touch, although perhaps the disc of the os uteri do not exceed the surface of a shilling;—if one or two fingers be passed into the os uteri, the feet of the child may, I believe, be frequently detected; from examinations of this kind, however, it is better to refrain, lest the membranes be prematurely torn.

When you have ascertained that the feet are lying in the mouth of the uterus, you next proceed to determine the proper moment at which the manual assistance of the delivery ought to be interposed—a point this of the utmost importance. Mere manual operations are easy enough; a mere novice in obstetrics may often with facility abstract the fœtus under crural presentations; but to determine the exact moment at which this assistance should be given, requires a nicety of judgment; and you will find, that by different teachers and practitioners, different rules are prescribed.

Some practitioners there are who take their indications from the laxity of the softer parts, and the openness of the os uteri; and if they find that the mouth of the womb is wide open, and that the softer parts are thoroughly relaxed, so that they feel satisfied that no resistance will be opposed to the passage of the shoulders or the head, they then lay hold of the legs, and draw down and bring away the fœtus as speedily as may be; and, on the whole, this rule is by no means to be despised. In general, where the mouth of the womb is expanded, and the softer parts are relaxed, the child, under the foot presentation, may be safely brought away.

By Denman and others, we have been advised, in these cases of crural presentation, to take the indications for manual interference from a very different circumstance; I mean the elevation of the breech. For when the breech is lying out beyond the external parts, they lay hold of the legs, and accomplish the delivery; but when the breech is lying above the brim of the pelvis, they wait until the natural efforts have pushed the nates to the outlet. The reason of this rule is twofold: in the first place, it is said, that where the breech has passed the outlet of the pelvis, the head and shoulders of the child will generally be found to come away with facility; and

secondly, so long as the breech is lying above the brim of the pelvis, so long the umbilical chord will not be subjected to pressure; and so long, therefore, without danger to the child, you may wait, so as to allow of its further descent. When the breech is pushed beyond the external parts, and the chord is compressed in the vagina, unless the child be promptly abstracted, it will probably die suffocated, much in the same manner as if, after delivery, you were to wrap it up in a blanket, or to throw it into water; and hence the necessity of a prompt abstraction from the pelvis.

There is yet a third indication by which some determine the moment of interference in crural presentations, and that is, the condition of the umbilical chord. If the chord pulsate strongly, it is said, we may wait, and trust to the natural efforts; or at all events, if we give any assistance at all, that assistance may be administered with much gentleness, and little activity. If, on the other hand, the pulsation of the umbilical chord is becoming obscure, if it is interrupted for a time, the child being still living, though in danger, then it is said, we should promptly extricate the fœtus, otherwise the circulation being weak, and pressure on the chord continuing, the flow of blood along the umbilical vessels may be interrupted so long, and so completely, that the life of the child becomes extinct.

For myself, however, as on former occasions, I would recommend you to take the indication of delivery not from one of these circumstances singly, but from a combination of them. Called to a crural presentation, before you lay hold of the feet, and begin to draw down, ascertain, by a careful examination, whether the os uteri is open, and the softer parts are relaxed or not. If the mouth of the womb is closed in great measure, or if the softer parts are unusually rigid, you had better not draw down, for doing this, you will find, when you have got away the feet, that the head and shoulders cannot be abstracted, or should you extricate them, overbearing all resistance, you will bruise and lacerate the softer parts, and perhaps detach the head from the body. On the other hand, if you find the softer parts are thoroughly relaxed, so that they yield in every direction under the pressure of your finger, or if you find the mouth of the womb wholly or in a great measure open, so that the passage of the head and shoulders is not opposed, you may then be considered as so far justified in having recourse to manual assistance. I would not, however, have you lay hold of the legs, and draw down merely because you may find the os uteri expanded, and the softer parts relaxed. I would advise you further to observe the rule already prescribed by Denman and others, which is, that the manual operations ought to commence if the nates are lying in the outlet of the pelvis; and further, that they ought not to be attempted provided the nates are at the brim, because in midwifery, unless there is a clear necessity for it, manual interference is improper; and this necessity does not exist when the breech is lying in the upper part of the pelvis, as the umbilical chord is not subjected to pressure, and neither the mother nor the fœtus incur much risk.

In determining when you should give your assistance in a delivery of this kind, I would recommend you further not to neglect the state of the umbilical chord, a circumstance of considerable importance. If you find it pulsating strongly, you may wait a little longer, even if the nates are beyond the external parts, for they may come down somewhat lower, and the delivery may be further facilitated; but if you find the pulsation interrupted, then, as it is clear the action of the heart is disposed to cease, the sooner the fœtus is brought away without injury to the mother the better.

These are the principal considerations, then, to be carefully revolved in mind before you lay hold of the feet and extract. Beware of laying hold of the feet and drawing without reflexion, merely because those parts are lying within reach; before you draw, ascertain that the os uteri is expanded, and that the softer parts are thoroughly relaxed. Before you draw, let the nates be pushed down to the outlet of the pelvis, or a little beyond it; and where the umbilical chord is pulsating strongly, be less prompt to interfere, recollecting that it is necessary to be more speedy in your operation, if the pulsation be disposed to cease.

The method of giving assistance in crural presentations is exceedingly simple; and, indeed, if you adhere to the rule of not interfering too soon, you will rarely find any difficulty. If the feet of the child present, and the abdomen is lying as I now place it, upon the back of the pelvis, you may assist in the extraction of the child as follows: the nates lying in the outlet of the pelvis, or beyond the external parts, you may wrap a handkerchief or napkin round the limbs, laying hold with the interposition of this texture as the grasp becomes more secure. Your hold thus obtained, you draw down, swaying the child a little from side to side, forward and backward, or obliquely, according as the one or other movement facilitates descent; in so doing, being very careful not to injure the perinæum. When the trunk of the child is passing the pelvis, you may slide up one or two fingers, first on the one side, and then on the other,

promptly, but not with hurry; and if you find that one of the arms (a rare accident) is disposed to descend with the body, taking the hand, you may draw the arm forth, and lay it flat and close against the side. If you neglect to perform this operation, the arm may start out at an angle over the brim of the pelvis, obstructing the descent of the child; or should the difficulty be borne down with impatience and violence, fracture or contusion may be produced. Further, (and I consider this hint to be of no small importance,) when you are drawing the thorax through the cavity of the pelvis, I would recommend you again to slide one or two fingers into the pelvis, to feel for the arms, and to take care to press them, as far as may be, upon the promontory of the sacrum; for it sometimes happens, when the child is descending, that one or both arms become fixed behind the head between the occiput and the symphysis pubis, so firm an obstruction being produced in consequence, that you are labouring, perhaps, for ten or twenty minutes before you can get the arm away.

With this precaution, then, having at length brought the axillæ to a level with the external parts, the arms being deposited in the back of the pelvis, you will find that you may extricate them easily enough, nor must this operation be neglected. In many cases, indeed, if the pelvis be large, and the head small, the arms and head might be brought away together; not however without difficulty, for thus combined, they occupy much room, as this apparatus demonstrates, a corresponding delay and compression of the softer parts being produced. In general, therefore, it is better to extricate the arms before the head, and, for this purpose, the axillæ being brought down to a level with the external parts, you throw the body thoroughly out of the way, placing it in the attitude most favourable for the introduction of the fingers, and the intended descent of the arm; and then laying all the four fingers if practicable, if not, one or two only, on the bend of the elbow, you bring down the arms resolutely, but without violence, with a sweep over the face. Be careful to lay your fingers into the bend of the elbow; for if you plant one or two fingers on the middle of the humerus, there will be a risk of fracture,—at this early age produced by slight causes. Having got one arm down, again, by a similar operation (as here demonstrated,) the other arm is, in turn, extracted, nor does it matter which of the two be first extricated; time, however, must not be futilely wasted by indecision, nor must you amuse yourselves by attempting the extraction first of one arm, then of the other, remember the apologue of the frogs—while you are fooling, the child is dying. Usually, when the arms have been extricated in the crural presentation, provided you have observed the rule of waiting till the os uteri is wide open, and the softer parts are thoroughly relaxed, and the nates have been pushed to the outlet, the escape of the cranium becomes easy; now and then, however, if the pelvis is small, or the head large—or if you have unwisely begun to operate, when there has been some little rigidity of the softer parts, in abstracting the head there may be some difficulty. Now your first object, in these cases, should be to acquire a power over the positions of the cranium, and for this purpose with both hands bearing on the shoulder, you put one finger (if practicable) on either side of the occiput, and with one or two fingers of the other hand, you act upon the chin as I now show you. If the head is in the brim of the pelvis, the occiput should lie toward one side, and the face toward the other, so that the long length of the head may correspond with the long diameter of the superior aperture; the chin of the child, where this may be accomplished, being brought upon the chest, as in this apparatus; so that of the three longer axes, the shortest may bear on the long diameter of the brim, the head in this position occupying least room. This effected, draw down in a line tending from the navel to the coccyx—that is, in the axis of the superior aperture, swaying the head however a little from before backwards, till it approach the outlet, when the face should be laid on the sacrum, and the occiput on the pubes, the chin still resting on the chest, so that the long measures of the head being again put into correspondence with the long diameters of the aperture, the cranium may emerge commodiously.

In crural presentations, we sometimes find that the abdomen of the child is placed in front of the pelvis, instead of lying on the back; and there are two ways in which the case may be conducted. First, without changing the situation of the abdomen, *mutatis mutandis*, you may extricate the fœtus, according to rules already prescribed, proceeding as here demonstrated. On the whole, however, I think you will find that the fœtus does not descend so commodiously when the abdomen is lying anteriorly, as when it is placed on the back of the pelvis; and, more especially in this position, much difficulty is to be apprehended in abstracting the arms, shoulders, and head. And hence, in crural presentations, when the abdomen lies anteriorly, it is on the whole deemed better to throw the belly of the child to the back of the mother, as soon as the operation can be performed, and on different occasions this may be attempted. Thus you may endeavour to place the abdomen on the

back, after you have drawn the head and arms into the cavity of the pelvis, but you will find it is very difficult to accomplish it at this time, as the head and arms become impacted: or you may attempt this operation as soon as you have laid hold of the feet—succeeding sometimes, though you may fail not infrequently, in consequence of not possessing sufficient command over the body of the child within the uterus. As on so many other occasions, so here, *μετρον αριστον*, the turn will be best accomplished when the thighs make their appearance, the nates lying just below the superior aperture, and the head, shoulders, and body above. As soon, therefore, as the nates approach the outlet of the pelvis, the thighs lying within your grasp, the turn should be attempted; for this purpose, laying hold of the thighs close upon the outlet with the left hand, and spreading on the back when practicable the fingers of the right, you draw the child backward upon the sacrum, so as to bring the axis of its body nearly on a line with the axis of the brim, (always cautious, however, lest you injure the perinæum,) and preparation thus made by the co-operating of the two hands with gentleness, yet resolution, you change the situation gradually, as the parts may bear transferring, the abdomen of the fœtus over the side of the pelvis from the front to the back.

In the management of the crural presentations, the following are the principal errors against which you ought to guard. The mistake of the arm for the leg,—the extraction of the fœtus, without previously ascertaining whether the moment of interference is arrived—the neglecting to turn the abdomen upon the back of the pelvis—the forgetting, when one arm is disposed to descend with the trunk, to lay this arm flat along the flank of the child. You may, too, err, as the head descends, in suffering the arms of the fœtus to become impacted between the occiput and the symphysis pubis—or in using such force as may contuse or tear the softer parts, or fracture the humerus of the fœtus, or the clavicle, or the vertebræ of the neck. Festina lente should be your rule: hurry is inadmissible; a cautious haste is proper. In general, when the chord pulsates strongly, you may proceed more leisurely; when feebly, more promptly. To the security of the mother, the life of the fœtus must always, if necessary, be sacrificed. If there are pains, so much the better; but do not, when the chord is under pressure, delay the delivery, by awaiting the pains, for the death of the child will be the result of procrastination.

Breech presentation. In preternatural cases, you will sometimes find the breech is lying on the centre of the pelvis, on the whole, a case more favourable than the preceding, as the child is oftener born alive under the presentation of the nates than when the feet present. When the breach of the child presents, even before the membranes are broken, if you are skilful in examination, you may form a probable opinion of the presentation, by carrying the fingers to the os uteri during pain, waiting with the fingers in the os uteri till the womb relaxes, and then through the yielding membranes examining carefully the characters of the nates. Early examinations of this kind, however, I do not recommend. They lead to early interference with the membranes, and might, with rudeness, occcasion a premature disruption—very undesirable in cases of this kind, because, for reasons already assigned, in preternatural labours, the rupture of the involucra should be delayed as long as may be. Certainly, the best time for making out this presentation is later in the labour, when the os uteri is expanded, and the membranes have been ruptured, and the liquor amnii has been discharged: lying naked under the touch, it may then be felt with facility—its roundness, its softness; the cleft between the thighs, the genitals, the anus, and portion of the thighs. In male children, you will feel the scotum generally like a fluctuating bag, not to be punctured. In presentations of the nates, the meconium frequently comes away.

The nates presenting, you are not hastily to infer that manual interference is necessary. Nor are you rashly to thrust the hand into the pelvis to lay hold of the presentation, or to thrust up the blunt hook or forceps, or to have recourse to any artificial measures—as usual a meddlesome midwifery is bad: interference is justified by inexorable necessity only; and in general, the same powers which detrude the head in natural labour, will also, and perhaps with greater facility, push the nates to the outlet of the pelvis; in these cases, therefore, a principal duty of the accoucheur is to wait: put your hands into your pockets, and not into the vagina. *Pazienza*, the familiar ejaculation of the Italian, may be properly adopted by the accoucheur. Some practitioners, when the nates descend, are accustomed to place one or two fingers over the bend of the thigh, right and left, alternately operating as with a hook, carefully drawing during the pains; a practice in which perhaps there is little harm, if cautiously effected; but really, on the whole, adhering to the general rule, you had better abstain altogether, unless interference be obviously required. By the natural and unaided efforts then, the nates may generally be pushed upon the outlet, and when this has been accomplished, as the chord is liable to compression, assistance

becomes necessary. For this purpose, grasping the hips, (as here shown,) co-operating with the pains, you may draw carefully down; and, as you draw, (the abdomen of the child lying on the back of the mother,) you carry the loins of the fœtus forward, and towards the mons veneris, so that the legs may of themselves drop forth when the case becomes footling. As a general rule, it is good not to pull forth the legs, indeed not to meddle with them at all, but to leave them, as here, to drop forth spontaneously; for fractures are to be feared.

It sometimes happens, under the breech presentation, that instead of lying behind, the abdomen is situated anteriorly, or to the one or other side, all which is easily ascertained by examining the situation of the thighs and genitals. Now when the abdomen is lying in front, or in the lateral position, on the whole it seems to be a good practice, as soon as may be, to throw the abdomen of the fœtus on the sacrum; for in this position, as observed already, the head and shoulders will be more easily extricated.

This rectification may often be accomplished without difficulty; and the proper moment for attempting it, is when the nates have reached to the external parts. A rectification, when the nates are at the brim, I would not recommend, because to effect it then, you must carry the hand into the uterus; an operation to which, as you know, a good accoucheur is exceedingly averse. Neither should I advise you, before rectification, to wait till the feet are escaped from the pelvis, for when the shoulders are in the cavity, the arms frequently become impacted between the bones of the pelvis, and the head, and the whole mass becomes so firmly fixed, that the turn cannot be effected. For the purpose of rectification, perhaps, the most favourable moment is, when the nates are pushed thoroughly down to the outlet, and the hips begin to appear. Grasping the part with ease at this time, by little and little, with well-mixed gentleness and resolution, you endeavour to transfer the abdomen to the back of the uterus, and failing in this attempt, you take the case as you find it, throughout the parturition, suffering the abdomen to lie in front. But to proceed.

As the head of the child is not always expelled by the unaided efforts of the uterus, so also the descent of the nates may be obstructed, more especially if the breech be large, or the pelvis small; so that the aids of the accoucheur become necessary. Of the various helps to which we may have recourse in these cases, one of the simplest consists in the use of the fingers, as a blunt hook. Into the bend of the thigh one or two fingers are inserted, and drawing down, you co-operate with the pains, performing the operation alternately on either side, right and left, till the nates at length reach the outlet of the pelvis. To co-operate with the pains is of the utmost importance; without their help you will draw with little effect. If you have not power enough with the finger, you are advised to make use of the blunt hook, here shown; an instrument which, like an ignorant, meddlesome accoucheur, has no feeling for the mother, or her offspring, and to which therefore I am exceedingly averse. In careful hands, indeed, it might be of service; but in hands coarse and rough it may prove a most destructive weapon, even tearing the limb from the body. Should this instrument be necessary, let two fingers be placed over the fold of the thigh, and, under direction of these fingers, pass the hook into the same situation, drawing down afterwards, as always, with mingled gentleness and firmness, so as to bring forward the hip somewhat: this accomplished, you operate on the other side in the same manner, alternately acting on either hip, till the nates make their appearance at the outlet, careful always to avail yourselves of the co-operation of the pains. Preferable, however, to this method is the abstraction of the child by means of a handkerchief, repeatedly tried, and which I find, on the whole, to succeed very well, though it requires some dexterity to use it. For this purpose take a handkerchief (if silk, it is preferable), and sliding it up, on the outer surface of the hip and thigh, as demonstrated; pass it over the bend of the thigh, and bring it ultimately down afterwards between the limbs; adjusting it so that it may lie in the fold formed by the limb and the abdomen, not resting on the middle of the femur, lest it occasion fracture. The handkerchief applied to the one in this manner, in the same way a handkerchief may be applied to the other, and then the two together, giving a complete command of the parts, co-operating with the pains, you may draw down the nates to the outlet. There is yet a fourth mode in which the descent may be assisted, and that is by means of the forceps, as explained in a former Lecture. Taking one of the blades of this instrument, you cautiously slide it over the flank of the child, afterwards with caution and apposition applying to the opposite flank the other blade, in these cases securing the nates with the forceps, just as in ordinary cases you might seize the head. If you use the forceps with violence—ferocious, atrocious violence—you may inflict much injury, damaging the abdominal viscera, breaking the osseous structure of the pelvis, for you have choice of mischief; but if you proceed with gentleness, you may proceed with safety, the security and success of the instrument turning entirely on the way in which it is employed.

Toujours dangereux sinon meurtrier pour l'enfant:—and so certainly it is, M. Capuron, unless very gently and carefully employed.

But it happens sometimes, when the nates are very large, or the pelvis is very small, that none of these modes of delivery will succeed. The fingers, the blunt hook, the handkerchief, the forceps, all have been tried without success. In this difficulty, what is to be done? Why, in cases of this kind, and in these cases only, you are justified in sliding up the fingers, and bringing down the feet, exchanging the presentation of the nates for the crural. I have said it is in these cases only, where you cannot bring down the breech otherwise, that you are justified in having recourse to this operation; for, as a general practice, though adopted by some, it should, I think, be reprobated for two good reasons; first, because more children are born alive under the breech, than under the crural, presentation; and, secondly, because where, in this way, you bring down the feet, it is necessary you should carry your hand into the cavity of the uterus. Now, over and over again, not however too often, I have told you that such practice is to be condemned; and if, in defiance of warnings, any one of you still addict himself to these malpractices, let him take the consequences; on his head be her blood! my hands are free, whatever befal the patient. Do not draw down the nates unless dangerous symptoms require it, or unless the womb have been in action for twelve or twenty-four hours after the discharge of the liquor. If the chord pulsate strongly, the child is in no danger; if there has been no pulsation for an hour, it is dead. In neither case need you accelerate the birth. If the pulsation of the chord begin to fail, this is an argument for interfering, provided, without the smallest risk to the mother, the nates may be brought away. These remarks may meet the interrogatory, When ought we to interfere?

The grand errors to which you are obnoxious in the management of these cases are, I think, the following: making a careless examination, you may confound the nates with the facial presentation, like my friend, whose instructive error I formerly recorded;—meeting with a breech presentation, you may deem it your duty to draw the breech towards the outlet, without further consideration; remember that this practice is erroneous, and that, in most cases, the breech will descend of itself, without the help of the accoucheur. To draw down the legs without need, converting the presentation of the nates into that of the feet, is another great error against which you have been forewarned; remember the risk of lacerating the genitals, and the danger of destroying the child. To use force in the delivery is a very fatal error—arte, non vi; contusions, lacerations, fractures, death, such are the results of force; a disposition to violence is your evil genius, and wo be to the woman whose accoucheur is haunted by it.

Mixed Presentation.—Among the preternatural cases, we sometimes meet with mixed presentations, and on those I shall next remark. Sometimes one leg only presents, sometimes the knees; but if you thoroughly understand the management of the breech and the crural presentations, according to the rules just prescribed, those cases of mixed character are very easily managed. The knees presenting, suffer the uterus to act of itself; and the legs descending, the feet will protrude,—what was a presentation of the knee becoming crural, so that no peculiar practice is required here. If the presentation is of a single leg, I believe, on the whole, your best practice will be to wait, as in the breech case, giving a fair trial to the natural efforts, which will most probably push the nates to the outlet of the pelvis; you may then grasp the hips, as in the presentation of the nates, and the rest of the delivery may be easily accomplished.

When we meet again, Gentlemen, I shall resume.

LECTURES ON CHEMISTRY,

BY

PROFESSOR BRANDE.

Delivered at the Royal Institution of Great Britain.

Lecture XIX.

On Ammonia, and its Combination with the Muriatic and Nitric Acids.

Gentlemen,—At the conclusion of the last Lecture, I intended to have shown you the explosive compound produced by the union of nitrogen and iodine. Here is a small quantity of it, which you observe is a brown powder, detonating on the slightest touch, and resolving itself into nitrogen and iodine. It may be procured by pouring a solution of ammonia upon a small quantity of iodine; a precipitate is thrown down, which may be collected upon paper, and allowed to dry spontaneously; for the sake of safety, only very small quantities should be manufactured at a time. When it detonates, the purple fumes of iodine are perceptible, as you see here. (The powder exploded with great violence on the slightest friction.)

Having now finished the description of

the combinations of nitrogen with the electro-negative substances, namely, oxygen, chlorine, and iodine, we now proceed to mention the combinations of nitrogen with the second class of bodies, or such as are electro-positive; and first, of the composition of the ammoniacal gas.

Ammoniacal gas, ammonia, or volatile alkali, as it is called, may be obtained by the distillation of muriate of ammonia and quick lime; and, as it is absorbable by water, it must be collected over mercury. It is a colourless transparent body, like common air. Its specific gravity, compared with hydrogen, is as 8½ to 1; and 100 cubic inches weigh 18 grains, so that it is only about half so heavy as atmospheric air, being in the proportion to it of 59 to 100. It is condensable into a liquid form, under a pressure of 6.5, or six atmospheres and a half; so that we are acquainted with it in its common form, under what is termed a permanent elastic gas.

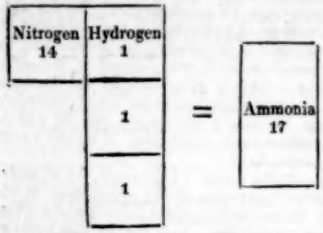
Its general characters are, that it is pungent and acrid; it excoriates and reddens the skin; it has also a biting taste; it dissolves readily in water, and extinguishes flame, but at the same time shows a tendency to burn when in the dark with common air, and if mixed with oxygen in certain proportions, it forms a very inflammable mixture. Its effect upon vegetable colours is like the alkalies, to turn the blues to green, and the yellows to red. Here is a piece of turmeric paper, which, on being exposed to the gas, becomes brown; but on account of the volatility of the gas, this colour is not permanent, and in this way, by their effect upon vegetable colours, we are enabled to distinguish the volatile from the fixed alkalies. If we introduce hot water to the gas confined in a vessel over mercury, it will be rapidly absorbed, and we shall find, that at a temperature of 50°, the water will take up about 670 times its volume of gas. Now from this table you will observe, that water in absorbing this gas increases in bulk, but loses in its specific gravity. One volume of water at a density of 1000, takes up 670 times its volume of gas, and acquires a density of 875, the increase in bulk being only 1.68; therefore the purity of a solution of ammonia may be shown by its levity.

In order to obtain liquid ammonia, you may distil the gas over water, the gas will be absorbed, and you will thus have liquid ammonia; or you may distil water over with the ammonia, and thus have it in a liquid state at once. The Pharmacopœia directs a process of the last kind, that is to say, a distillation of the gas with water, and you may follow the proportions there given, which are eight ounces of muriate of ammonia, six of lime, and four of water; the product is there called the *liquor ammoniæ*. You observe, that in this process the lime decomposes the muriate of ammonia; a muriate of lime is formed, and the ammonia is set at liberty, which becomes absorbed by the water; but the water may also contain some air in solution, and therefore if you distil first the clear liquor, you obtain the ammonia pure. The process requires, of course, that the refrigerant apparatus should be well adjusted; that the lime and muriate of ammonia should be well cleaned, if you wish to obtain the ammonia pure. The specific gravity of the liquid ammonia directed to be used for pharmaceutical purposes, is about 9.692, water being 1000; it contains of ammonia about 9.5, or in round numbers, say 10 per cent. of pure ammonia. The liquid which comes over in the distillation should be preserved in glass bottles. At the temperature of about 140° or 150°, it comes over with considerable rapidity, and therefore you may distil off the gas over hot water.

We now come to consider the composition of ammonia, and the manner in which its nature is determined; and, without entering into any historical detail, it may be stated that we are principally indebted to Scheele for a knowledge of the fact, that nitrogen and hydrogen are its constituents. To prove this, then, in the first place we introduce some ammonia into a jar over quick lime, and pass an electric spark through it; we find that by such decomposition, it undergoes an increase in bulk, and is resolved into two volumes of a mixture of hydrogen and nitrogen, consisting of three volumes of hydrogen and one of nitrogen gas. If you mix together *ammonia* and *oxygen*, and pass an electric spark through the mixture, it will detonate, and the result will be a diminution of its volume, and a portion of the nitrogen remains; the fact being, that the nitrogen is oxidized as well as the hydrogen; so that, if excess of oxygen were used, the whole of the ammonia would disappear, and nitrate of ammonia would be formed.

If we pass ammonia through a red hot tube, it is decomposed, and that more rapidly if in contact with metals, than with other bodies; so that, if we pass it through a red hot iron tube, it does not come out as ammonia, but as a mixture of hydrogen and nitrogen gas; and we find, moreover, that each volume of ammonia produces two volumes of the united gases. These gases are insoluble in water, and are, therefore, easily collected over it; whereas, if the ammonia had passed over, it would have been immediately absorbed by it. We find, by all these modes of examining its composition, that ammonia is composed of three volumes of hydrogen, and of one of nitrogen;

and therefore it is evident, that it is composed of fourteen parts by weight of nitrogen, and three parts by weight of hydrogen, so that its equivalent number is seventeen; but, at the same time, there is a diminution in the bulk of the gases when they form this combination, as is here represented:—



The ammonia thus constituted is detonated with oxygen, and water and nitrogen are the results; and from the amount of diminution in the bulk of the gases, we learn that three volumes of hydrogen have united with three proportionals of oxygen forming water, and that one volume of nitrogen is thrown off.

(The gases produced by passing ammonia through a heated iron tube were then burned, to show the great excess of hydrogen.)

To show you the curious compounds which the same elements under certain circumstances will produce, I shall pass ammonia through a red hot porcelain tube containing the black oxide of manganese, and then in place of an alkali we shall obtain an acid, the nitrous acid gas and water; and you now observe the yellow fumes which denote its presence, beginning to make their appearance. I mentioned to you, in the beginning of the lecture, that hydrogen and nitrogen had no tendency to combine when mixed, but they combine readily in their nascent state to form ammonia. Its production under a great variety of circumstances, especially during the decomposition of animal substances, will be pointed out to you, by-and-by, in that part of the course allotted to animal chemistry.

With the acid bodies already considered, ammonia enters into numerous combinations, and forms a class of salts called *ammoniacal salts*, characterised by being all soluble in water, and by being acted upon by quick lime. Chlorine and iodine also combine with ammonia, but the salts they form are of no sort of importance; but the action of chlorine upon ammonia is curious; it was that which first led Scheele to detect nitrogen in ammonia, by decomposing one part of the ammonia by the chlorine. If you mix together three volumes of chlorine, and three volumes of ammoniacal gas, a portion of nitrogen is thrown off, and the result obtained is a muriate of ammonia. If the gases be dry when mixed, great heat is evolved, and a faint flame is seen to traverse the jar in which the experiment is made. Now here is a solution of chlorine in water in this glass tube, upon which I shall pour a solution of ammonia; as soon as I invert the tube, a great effervescence takes place, and nitrogen gas will be produced, which is another mode of showing the same fact. That it is nitrogen gas which is thus produced, may be easily shown; it is unabsorbable in water, it extinguishes flame, it does not act upon vegetable colours, and is destructive to life. These experiments are curious, as illustrating the nature of ammonia.

One of its principal combinations, as regards its utility in the arts and in medicine, is, with the muriatic acid, to form *muriate of ammonia*, which may be procured by mixing directly equal volumes of ammonia and the acid. It was formerly obtained at the temple of Jupiter Ammon, on the banks of the Nile, from which circumstance it appears to have derived its name, and was, for a long period, brought into Europe exclusively from that country. It has, however, been since discovered in large quantities, in the native state, crystallized, in the neighbourhood of volcanoes, and in the fissures in the lava, near their craters. It has been found at Etna and Vesuvius, and in a district called the Solfaterra, near Naples. It is also occasionally seen in an efflorescent state, upon the surface of pit-coal, but not in sufficient quantity to become an article of commence. It is often coloured from the presence of foreign matter, and is frequently found of a yellow tint, owing to the presence of sulphur; in some countries it is combined with sulphur in large quantities, as in the rocks of indurated clay, in Bucharia. It is used for a great many useful purposes in the arts, and when dissolved in nitric acid it forms the *aqua regia*, which has the property of dissolving gold; whereas, neither the muriatic, nor the nitric acids, will separately dissolve that metal. Now, this is what happens when you mix the two together;—chlorine is evolved in consequence of the partial decomposition of both acids, and water, chlorine and nitrous acid gas are produced; the hydrogen of the muriatic acid combining with a portion of the oxygen of the nitric acid, to form water, consequently, the residue is chlorine, with the nitrous acid.

There is only one other salt of ammonia which we can now speak of, it is the *nitrate of ammonia*, and we may obtain it directly, by putting ammonia into the nitric acid; a

white salt is formed, which readily crystallizes, producing prismatic crystals, and contains a large quantity of the water of crystallization. It is generally employed to obtain the nitrous oxide as already mentioned, and when heated, is resolved entirely into that gas and water. It consists of one proportional of nitric acid, and one proportional of ammonia; or it may, by taking another view of the subject, be regarded as consisting of two proportionals of nitrogen, three of hydrogen, and five of oxygen. It is a deliquescent salt soluble in twice its weight of water, at 60°, and in its own weight of boiling water. It contains a large quantity of water in its crystals, which, according to Berzelius, amounts to as much as 11.232 per cent., but the quantity of water varies with the density of the crystals.

In the next Lecture we shall have to consider the combination of nitrogen with oxygen, forming atmospheric air; and to explain the construction and uses of the air pump.

Lecture XX.

On the Composition and Properties of the Atmospheric Air, and on the Construction of the Air Pump.

Gentlemen,—From what has been said, you are already acquainted with the essential components of the atmospheric air, namely, that it is made up principally of oxygen and nitrogen; and although it will be our business rather to speak of its chemical than of its mechanical properties, we shall mention a few of the more striking of these, when describing to you the construction of the air pump.

Now, you are aware that the air is a ponderous body, and this was first suspected by Galileo, who found, that a copper ball, in which the air had been condensed, weighed heavier than when it was filled with air, under ordinary pressure. Torricelli afterwards demonstrated the fact, whose attention was drawn to the subject by the failure of the attempt of a Florentine well-digger to raise water by a sucking pump, beyond 33 feet. He considered this fact, and was led to conclude, that a column of water of that height was sufficient to equipoise the pressure of the atmosphere, and that it was to this circumstance, and not to nature's dread of a vacuum, that the prevention of the further ascent of the water was owing. In pursuing his investigations, he found, that by filling a glass tube three feet long with quicksilver, and inverting it in a basin of the same fluid, the mercury fell about six inches, so that it appeared that the atmosphere was capable of counterbalancing the pressure of a column of mercury 30 inches high. The space left in the upper part of the tube, by the descent of the mercury, is the most perfect vacuum that can be formed, and was called, after the experimenter, the *Torricellian vacuum*. This was done in 1643. It was afterwards discovered by Torricelli and Paschal, that upon ascending a high mountain, the quicksilver fell in the tube, because, in proportion as they ascended, the pressure of the atmosphere became less, and thus a method was devised of measuring the heights of mountains by the *barometer*. The best for this purpose is that constructed by Sir Henry Englefield, and he has described the mode of using it in the Journal of the Arts.

At the surface of the earth, the mean density or pressure of the atmosphere is considered equal to about 30 inches of a column of quicksilver. You see in this Table the variations in the weight of the column at different elevations from the surface of the earth.

At 1000 feet above the surface the mercury falls to	28.91 inches.
2000	27.86
3000	26.85
4000	25.87
5000	24.93
1 mile	24.67
2	20.29
3	16.68
4	13.72
5	11.28
10	4.24
15	1.60
20	0.95

Now, the general mechanical properties of the air are best shown by the *air-pump*, which was invented by a chemist of Magdeburgh, and afterwards perfected by Hooke. The air-pump is a common syringe, merely made with valves, adapted so as to allow of the passage of air in one direction, and to prevent it in another; in fact, it is the counterpart of a common pump. Now, this sketch will give you a pretty good idea of the common air-pump (referring to a diagram on a black board). Here are two cylinders, into which the sliding pistons are very accurately fitted. A tube issues from beneath the bell glass, which, dividing, opens into the two cylinders; and in each piston there is a valve, opening only upwards. By elevating the pistons alternately attempts will be made to form vacuo beneath them; but, in consequence of the elasticity of the air contained in the bell glass, a portion of it will be forced along the central tube into the cylinders. The descent of the pistons close the valves opening from the perpendicular pipe into

the cylinders, and the air then contained in the cylinders is forced out, by the descent of the pistons, through valves in the pistons, which open only upwards; so that, at every stroke of the piston, a fresh portion of air is drawn from the receiver. We have two cylinders in the air-pump, in order that they may be kept in alternate action, and the exhaustion thus be accelerated, and by a repetition of their movements, we arrive very nearly at a vacuum. But, as the air-pump operates only by the elasticity of the air, and as there must always be air to open and shut the valves, it is clear that there must always be a portion of air remaining, the quantity of which is ascertained by a barometer, which is attached to the apparatus; but we shall never be able, probably, to produce a perfect vacuum. The edge of the glass vessel placed upon the brass plate should be ground quite flat, and by rubbing it with a little grease, it may, with a little friction, be made air tight, and then the business of the pump begins. Air-pumps have of late been constructed upon very refined principles; the valves have been opened and shut by mechanical means, to obtain a more perfect vacuum; but this refinement of structure is not necessary for ordinary purposes.

With the air-pump, the first thing that strikes us as illustrating the mechanical properties of the air is its *pressure*, and accordingly you find that you may lift the whole weight of the machine by the glass vessel, but you cannot, by exerting your utmost strength, separate it from the plate. It is held in close contact with it by the pressure of the air, which amounts to about fifteen pounds upon every square inch; and therefore we provide ourselves with instruments which are capable of resisting that great pressure, namely, as you see here, round-topped vessels. If we substitute for the round-topped glass vessel, an open-topped one, the top of which is secured by a piece of bladder, you will see that, by exhausting the vessel, the bladder will be driven in, and ultimately burst with great violence.

The *elasticity* of the air may be shown by placing a flaccid bladder, the neck of which must be tied, under the receiver of the pump; when, by withdrawing a certain portion of air, the bladder will begin to be distended, and the more air you abstract from the glass the greater will the distention become. So that, you see, the air is a ponderous body; that it is highly elastic, and that it has the power of floating or buoying up bodies: for if, by any contrivance, you were to let fall a guinea and a feather from the upper part of the exhausted receiver, they would fall to the bottom in the same time. The preponderance of the larger of the two bodies which balance each other in the open air, and the equal duration of the motion of two fly wheels with their plates placed in different directions in the exhausted receiver, prove the natural buoyancy and resistance of the air. And this leads me to advert to the question, which I dare say you have often heard put, "which is heaviest, a pound of lead or a pound of feathers?" The fact is, that in vacuo the feathers are heavier than the lead, and this arises from the greater surface of the feathers giving rise to a greater preponderating weight. You will see, therefore, the necessity of taking the atmospheric pressure into account in all calculating experiments; and accordingly, when calculations are made, the bodies ought to be weighed in vacuo, thus taking away the air's pressure. If you alter the directions of the valves of the air-pump, you then, instead of pumping air out, would pump it in, making the pump a condensing engine.

I might show you many more experiments; but if I have succeeded in showing you the weight, the elasticity, and the buoyant power of the atmosphere, that must suffice, as we must not waste our time in mechanical experiments, when our object is to show you its chemical properties: but I thought it right to show you thus far its mechanical properties, and shall next exhibit to you the mode of ascertaining the *specific gravity* of the *atmospheric*, and other airs.

A number of methods have been adopted for this purpose; but I shall point out to you the simplest, which appears to me to be that which we ought to employ. Now, the apparatus required for this purpose consists, in the first place, of a glass bulb, made as light as is consistent with its safety, and connected with a brass tube furnished with a stop-cock; a graduated glass jar, also furnished with a stop cock, an air pump, and a balance of the greatest accuracy, are also requisite. Having procured this apparatus, we proceed as follows;—we determine, in the first place, the capacity of the vessel we employ; and supposing this vessel to contain 50 or 100 cubic inches of air, we weigh it carefully, and having noted its weight, we, by the air pump, exhaust the vessel as far as possible, and weigh it again, and the difference in the weights will represent the weight of the air before in the vessel: thus we have a datum furnished, by which we may ascertain the specific gravity of gases generally. Here is a small globe furnished with the apparatus before described; we will first weigh it full of air, and having done this, we will exhaust it, and weigh it again, and we shall find a great difference in the amount. Whatever gas you wish to examine, you have to treat in the same way. Remember, I am not taking temperature

into account, at present, because I conclude that the temperature of the globe is the same in both cases; and I do not take the barometric pressure into account, nor the state of moisture of the gases, because I am not making any comparative experiments; we are merely showing you how those things are to be done. The globe was then filled successively with air, carbonic acid gas, and hydrogen; from which experiments, it appeared that if the specific gravity of air were assumed as 1.000, carbonic acid would have a specific gravity of 1.431; and that if air were taken at 1, the specific gravity of hydrogen would be 0.7. The gravity of air has generally been stated to be about 30.2 grains for 100 cubic inches. We made a great many experiments in this laboratory, and we found that 100 cubic inches weighed 30 grains and $\frac{19}{100}$ of a grain; which we may call in round numbers $\frac{2}{10}$; so that they may be said to come near about the same thing. I might here introduce, if our time allowed, the method of determining what a given bulk of a quantity of air would weigh under different temperatures and pressure, but I shall pass it over. I may mention to you, that great care must be taken not to warm any of the vessels by touching them with the hands, which should be covered with leather gloves; you should also take care that there is no water lodged in the air-cock of the receiver. Having ascertained the fact, that 100 cubic inches of atmospheric air weigh 30.19 grains, you may easily know the specific gravity of any gas as compared with it, by the following rule, when we have ascertained its absolute weight: Thus we say, 30.19 : 33.75 :: 1.000 : 1.1175; 100 cubic inches of oxygen gas, weighing 33.7 grains, the specific gravity of oxygen to atmospheric air is as 1.1175 to 1.000.

Now then, we arrive at the *chemical composition* of the air; and it has been a great question with chemists to determine whether air is to be regarded as a simple or compound body; but it seems a mere mechanical mixture of 80 parts of nitrogen and 20 parts of oxygen; and this proportion exists over the whole surface of the globe. I do not mean to say that in large towns the air shall not be loaded with some foreign matter; but whether at sea or on land, whether on the tops of mountains or in valleys, whether at the equator or the poles, the proportion of oxygen to nitrogen remains the same.

These proportions have been determined by experiment with instruments, called *eudiometers*, from supposing that the good qualities of air depend upon the quantities of oxygen it contains. To determine the general fact of the pressure of oxygen an experiment has already been shown, namely, by its detonation with hydrogen. In this apparatus, which is called Volta's eudiometer, it will be seen, that after the detonation of 300 volumes of air with 200 volumes of hydrogen, the diminution in bulk will be 195 volumes, and only a third of that diminution in bulk will be oxygen gas. But I do not know that I can show you the quantity of oxygen in a given quantity of air better than by burning phosphorus in it, which will absorb the oxygen and leave the nitrogen; and if this be done in an eudiometer, it will show you the quantity exactly. I suppose that there are a hundred different methods of showing the quantity of oxygen contained in air, but these will suffice. There is a curious property belonging to the metal platinum, which is, that being submitted to a mixture of oxygen and hydrogen gases, it will cause them to combine and form water, which would also seem to show the quantity of oxygen in a given bulk of air: but it would be rather premature to anticipate the experiment.

Now the result of all these experiments is to lead us to conclude, that atmospheric air is a mixture of oxygen and nitrogen essentially; it contains some carbonic acid and certain animal and vegetable effluvia and other substances floating in the air, especially in large towns and manufacturing districts: but setting all these casualties aside we conclude, that there are 80 parts of nitrogen and 20 of oxygen in every 100 parts of atmospheric air. As there is a number of bodies constantly abstracting oxygen from the air, it might be imagined that its relative quantity would decrease; but it has always happened that the absolute amount of oxygen in it has been the same as it is now, since from the earliest times of experiment no such diminution has taken place. The fact is, that if oxygen be abstracted from air by one class of bodies it is supplied by another, and it has been ascertained that a very considerable abstraction of oxygen may take place without its being perceptible by the finest experiment. If we consider the immense bulk of air above and around us, it will be seen that there is no probability of that quantity ever being exhausted. Oxygen is a powerful supporter of combustion, and nitrogen does not support combustion; but when mixed with 80 parts of oxygen, it operates as we see in common air. Nitrogen is destructive to animal life; oxygen appears to enable animals to breath with great vigour; but only in the proportions before stated, can these gases sustain for a long period animal life; so that there can be no doubt as to the composition of atmospheric air.

In the next lecture we shall proceed with the description of sulphur and its combinations.

FOREIGN DEPARTMENT.

ROYAL ACADEMY OF SCIENCES.

Sitting of the 16th October.

REMOVAL OF THE LOWER JAW.

M. Delpech read a paper on this subject, the chief object of which was to point out the existence of a very serious symptom, by which this operation may be sometimes accompanied. This consists in the retraction of the tongue, produced principally by the glosso-pharyngei, which draw the base of this organ backwards and downwards forcibly against the pharynx, so as to prevent the air from penetrating into the glottis. This motion, according to M. Delpech, depends on the sudden division of the geneo-glossi muscles, whose action instantly ceases to balance that of the glosso-pharyngei. Death might result from the suspension of respiration. This danger had been pointed out by some German surgeons, who thought it a sufficient reason for abstaining from the operation. M. Delpech advises that recourse should be had in all cases to the immediate union of the divided parts, which, according to him, is the only method of preserving the natural form, and of preventing the evil which must result from the retraction of the tongue. The object is to find a force capable of balancing that which draws the tongue towards the pharynx. The re-establishment of the continuity of the geneo-glossi with the rest of the lower jaw, or with any other fixed point, is the means which nature employs for this purpose. Unassisted, nature sets up the suppurative inflammation; but by art adhesion may be produced, the good effects of which are very striking. In some hours, the geneo-glossi included between the approximated parts may have already recovered to a certain degree their former state.

PALATE OF THE CAMEL.

In the camel, the fold of the palate, or velum palati, descends very low, and instead of tonsils, there are numerous little depressions containing greenish concretions, probably salivary calculi. In front of the velum palati is a peculiar organ, the true nature of which is but little understood; it consists of a depending membrane, eight inches long by four inches wide, apparently formed by two laminæ of the mucous membrane, connected by cellular substance, and furnished with muscular fibres, that are probably capable of voluntary motion; its surface is perforated by the oblique orifices of numerous foveoli. It is stated, that during inspiration, air penetrates it, and distends its cells; though the mode in which this can take place is not very obvious, unless it be by means of a large excavation on each side, described as being capable of admitting the tip of the finger.

ROYAL ACADEMY OF MEDICINE.*

Sitting of the 9th of October.

THE ESCAPE OF A LUMBRICALIS THROUGH THE UMBILICUS.

The following case occurred to M. Blanchet, surgeon at Cour Cheverny, near Blois. The curate of this village was seized one day with violent pains in the umbilicus; notwithstanding the use of leeches and fomentations, the pain increased, and a swelling in the umbilical region came on. At the end of eight days, a fluctuation was felt in the tumour, which presented a black spot in the centre; it was opened, and some liquid escaped, containing a living lumbricalis, of more than a foot in length. At the end of fifteen days, the patient was quite cured. M. H. Cloquet observed, that cases of this kind were not of rare occurrence.

MONSTROSITIES.

M. Geoffroy St. Hilaire read a paper on a human fœtus, which was observed by M. Blanchet. This monster, which was born on the 6th of last September, belongs to that class generally called *cyclopes*, because both eyes are inclosed in one orbit, which is situated in the middle of the face, but they are called by M. Geoffroy, *rhinencephali*, because the union of the eyes is only the result of the absence of the olfactory lobes. In the present instance, the apparatus of vision consisted of two eyes contained in one investment; the pupils were separated from each other, and the four lids were distinct, although, altogether, they formed merely one circular lid. Instead of a nose, there was a snout situated above the orbit, consisting merely of the skin of the nose, which was perforated in the centre.

M. Baron presented another infant, which had died the third day after birth. The cranium was depressed anteriorly, the frontal bone was wanting, and the cranium was only formed by the occipital and the two parietal bones, which were very small, especially in front. It had neither eyes nor nose, unless we consider as a rudiment of this last organ, a small flattened prolongation of skin, situated in the middle of the fissure, which was in the upper lip. M. Baron proposes to call this monster *microps*,

* Archives Générales, Nov. 1827.

the principal characteristic of which was, the absence of the forehead, eyes, and nose.

SECTION OF SURGERY.

Sitting of the 30th of August.

LUMBAR ABSCESS, THE CONTENTS OF WHICH WERE, IN PART, DISCHARGED BY THE BRONCHI.

A person, who had been for some time labouring under pain in the left side of the chest, which was followed by difficulty of respiration, and painful movements of the chest, was, at last, seized with a fixed pain behind the false ribs. A fluctuation being perceptible in this spot, an opening was made, which gave exit to two pounds of healthy pus; a few days afterwards, when another opening was about to be made, the patient suddenly, in a fit of coughing, expectorated six pounds of matter mixed with pus, similar to that which escaped from the lumbar abscess. A large opening was made in the abscess, and the patient was cured in about a month.

It is probable that, in this case, the abscess was first formed in the chest, whence it escaped in part into the loins, and in part into the lungs.

HYDROPHOBIA.

M. Cloquet communicated a case of hydrophobia, which occurred in a woman six weeks after a bite in her hand. This woman was admitted into the hospital of St. Louis three days after the appearance of the first symptoms; she was in a state of imminent suffocation, and was seized with violent convulsions at the sight of shining bodies or liquids. The base of the tongue was examined, for the purpose of seeing if any pustules were present, but none were found; notwithstanding, this part was cauterised; the woman died in nine hours after admission. On opening the body, a small pustule was found on the left side of the frænum of the tongue; the mucous follicles at the base of the tongue were very much developed, and covered with a false white membrane, neither very firm nor thick, which extended to the mouth, pharynx, stomach, and commencement of the duodenum. The membranes of the brain were a little inflamed.

STAPHYLORAPHY.

M. J. Cloquet communicated an account of an operation for divided palate, which he recently perfomed; notwithstanding two sutures were used, there remained an opening in the upper part of the fissure, which he several times touched with caustic. Inflammation ensued, which caused the complete adhesion of the parts.

THE PHYSICIANS'

INTENDED PETITION TO THE LEGISLATURE.

It has been determined that a Petition shall be presented to Parliament early in the ensuing session, on the part of the Doctors of Medicine of the United Kingdom, Graduates of the Scotch and other Universities, with a view of engaging the Legislature to emancipate the profession from the shackles which have for centuries been so illegally and unjustly imposed on it by the arrogated professional monopoly of the College of Physicians in London; of which Petition the following is an outline:—

1. It is essential to the national welfare that his Majesty's subjects be supplied with medical attendance, of excellence commensurate with the improved state of science, and avouched by competent testimonials.

2. To affect these objects, it is necessary that the profession of physic be so organised as to insure adequate qualifications on the part of practitioners, and afterwards to secure, to individuals so qualified, full power to exercise their talents, in the way most conducive to the public good and to their own interests.

3. On this account, it is incumbent on the Legislature to establish by law, such an arrangement of the profession, in its several branches, as shall insure that all who profess the practice of the art, possess the necessary qualifications.

4. The supply of medical aid being left free to accommodate itself to the demand, the welfare of the profession requires that its different branches be protected, both from unqualified intrusion and from unnecessary restrictions.

5. To enable your Honourable House to judge of the alterations required for this profession, it appears necessary to inquire into the nature of the divisions of its different branches, the relative proportion of their numbers to each other, and to the population, in this, as compared with other nations, as well as the causes and effects of these divisions and proportions respectively.

6. That a feeling very generally prevails, that serious grievances do exist in the medical profession, is placed in evidence by the following facts, either officially before your Honourable House, or otherwise notorious:—Last year it was resolved, by the surgeon-apothecaries, or general practitioners, that a petition be presented to Parliament, praying for an inquiry into the existing state of medicine and surgery, so far as regards the general practitioner, &c. It

was, about the same period, resolved, by the members of the surgical profession, that a petition be presented to the House of Commons, for a committee to inquire into the abuses of the College of Surgeons, &c.; and your petitioners now humbly state their grounds for respectfully soliciting a revision of all the laws which regard the several branches of the profession, particularly the physicians' department, and also the laws by which the College of Physicians of London are, or profess to be, governed.

7. Your petitioners presume the more earnestly to solicit the attention of your Honourable House to those circumstances, from having observed the hazard of legislating for any single department of a collective profession, without special reference to the interests of all its branches, as well as of the community at large. As an instance in point, they might mention the unsuitable powers unwarily granted to the Society of Apothecaries, by the act of 1815.

8. Your petitioners now come to their more immediate object, of submitting to your Honourable House a general view of the grievances under which the profession and the public labour, as connected with the organisation of their own department, which abounds in evils urgently calling for legislative remedy.

9. Upwards of three centuries ago, the physicians of London were constituted a Corporation, or College (unum corpus et communitas perpetua, sive collegium perpetuum) principally for the purposes of "restraining and suppressing illiterate, unexperienced, and unlicensed practisers;" to which association were granted all the usual rights and privileges which royal charters confer.

10. It would be well if the spirit, or even the letter, of this charter had been regarded by those who administered its powers; but, unhappily, the course of proceeding adopted by this body, from its earliest formation, has set at naught the laws under which they were to be governed; and, by arbitrary and illegal by-laws, they have superseded the authority of the statutes, introducing practices to which these statutes afford no sanction,—excluding a large portion of the profession from rights to which the charter and statutes give them claim,—creating distinctions utterly at variance with all that the law enjoins,—and so limiting the college, as, without any legal authority whatever, to exclude from its pale all who do not derive their qualifications from the medical degree of Oxford or Cambridge.

11. Were this power even conferred by statute, it would, at the present day, be an oppression as absurd as it is unjust; for, in the course of events, other medical schools in Britain have risen to an eminence far surpassing what Oxford or Cambridge could ever boast of; and the law, if it existed, would present the solecism of conferring the highest medical honours upon those who least deserved them; nay, of wholly limiting them to this favoured few; all other Physicians, however eminent or capable, being absolutely excluded.

12. These regulations operate with peculiar severity and injustice on Physicians of the Catholic and Dissenting persuasions, who are, under all circumstances, excluded from the fellowship.

13. The law, however, gives no such power; for your petitioners seek in vain, either in the charter or statutes, for any grounds on which the proceedings pursued by this College can be justified.

14. So entirely has the reputed College of Physicians departed from the legal authorities from which it springs, that the whole discipline of the College, and even its very denomination, differ essentially from what the law has directed; so that, were the present College required to prove its identity with that of Henry VIII., your petitioners are persuaded they would be unable to establish the fact.

15. In the whole course of proceeding followed by this college, your petitioners can discern no motive having for its object the public good, or the advantage of the profession; its unvarying tendency being, to establish within the profession an odious monopoly,—giving rank exclusively to those who can show no claim to professional superiority; attempting to make the largest portion of British Physicians outcasts and aliens in their own country, and, by the influence of these signal abuses, degrading the whole profession, and exposing it to the encroachments which the subordinate departments have so successfully made on it.

16. Of these encroachments, however glaring, your petitioners mean not to complain, nor do they seek protection from them in any exclusive rights or privileges.

17. Your petitioners, however, do seek relief from the unjust and illegal restrictions imposed on them by the College of Physicians, so as to enable them to enter into professional competition with an equal chance of maintaining their own title to public approval.

18. The abuses which, for the advantage, real or imaginary, of a very few individuals, have thus existed for centuries in the higher branch of this profession, appear now to have approached the highest degree of which they are susceptible; preventing the public from having a free choice of their Physicians; greatly augmenting the expenses incidental to sickness; preventing

Physicians, with the exception of the favoured few, from aspiring, with any chance of success, to offices of dignity or emolument; impeding the progress of science, and infringing upon the rights of the Universities.

19. The grounds of all the foregoing assertions your petitioners are prepared to prove, and they trust that, in what they have averred, a sufficient apology is furnished for the present appeal, and a sufficient cause shown why your Honourable House should take this most important and long-neglected subject under your early and mature consideration.

20. What precise reforms of the profession may be called for, your petitioners presume not now to mention; they merely submit, most respectfully, to your Honourable House, that great amendment is needed in every part of the British dominions. They solicit only inquiry into the defects and abuses of which they complain, and they rely with confidence on your Honourable House for granting them, as the result of that inquiry, such relief as your Honourable House, in its wisdom, may deem meet.

21. Your petitioners venture only to suggest, that a Parliamentary Committee of Inquiry would, in their opinion, be the most effectual means of eliciting and verifying the necessary information; and they respectfully submit, that the importance of the subject, whether as it regards the welfare of the public, or the interests of an useful and much-aggrieved profession, fully entitles it to the grave examination which they solicit.

And your petitioners, &c.

All physicians, whether in town or country, who may approve the principles here set forth, and desire to contribute their efforts towards obtaining the objects sought, are requested to communicate their sentiments, without delay, to the Faculty of Physic in London, (post free) to the care of Messrs. T. and G. Underwood, 32, Fleet-street; Messrs. Callow and Wilson, Prince's-street, Soho; or, Messrs. Burgess and Hill, Great Windmill-street, Piccadilly. And it is further most earnestly requested, that they take an early opportunity of making the members of Parliament, magistrates, and other influential persons in their respective neighbourhoods, acquainted with the real bearings of the important questions at issue, which have recently undergone such full and able discussion in the medical and other journals of the metropolis, as to have been rendered perspicuous to all who have had an opportunity of attending sufficiently to the subject. For the convenience of those who may wish to suggest improvements, the paragraphs of the proposed petition are numbered.

WESTMINSTER MEDICAL SOCIETY.

Saturday, December 22, 1827.

Dr. Somerville in the Chair.

This evening (according to a regulation of the Society) being set apart for the miscellaneous recital of cases, Mr. Duncan commenced by relating a fatal case of *colica pictonum*, which had lately fallen under his care. The patient, it seems, was a young man, and a painter; he laboured under all the symptoms which are said to characterise lead-colic; but it is a singular fact, that there was, in addition, *exquisite tenderness of the abdomen*. The bowels were obstinately constipated, the pulse was small and quick; the medicines were simply ejected from the stomach on some occasions, but there was otherwise *no vomiting*. The disease ended fatally on the tenth day; and upon dissection the only morbid appearance to be detected was a few ecchymosed spots in the mucous membrane of the stomach. The remedies employed were—blood-letting from the arm once, the exhibition of purgatives and repeated doses of colomel and opium; but the system was not put under the decided influence of mercury. The man had previously laboured under several attacks of a similar description, and had been engaged in painting to the period of his last attack.

In the discussion which ensued upon this case, Dr. Barry contended that the symptoms were referrible to poisoning from arsenic, and not from lead. He observed, that arsenic is much employed by painters, and that the effects of this poison on the animal economy, are precisely the same, whether it be inhaled or swallowed, and that the symptoms present in Mr. Duncan's case were those of poisoning by arsenic. The circumstance of red spots being found in the mucous coat of the stomach, and also the tenderness on pressure, were strongly dwelt upon by Dr. B. in corroboration of his opinion. Dr. Barry further remarked, that a great number of patients affected with *lead colic*, are constantly presenting themselves at La Charité, and the treatment there pursued consists in the exhibition of a *solution of tartar emetic*, so as to induce vomiting and purging.

In opposition to the opinion of Dr. Barry, that the symptoms present in Mr. Duncan's case were attributable to the inhalation of arsenic, Mr. Lambert remarked, that one of the most prominent effects of this poison was absent, namely, *vomiting*. Further, that the spots observed in the lining of the stomach were, according to Mr. Duncan, simple ecchymoses, whereas, in poisoning from arsenic they are gangrenous spots.

Dr. Ayre said, that he had had exten-

sive opportunities of witnessing lead-colic, having been for some time the medical attendant of a lead manufactory, in which upwards of 200 persons were employed. He regarded the disease purely as a nervous affection, and had treated it invariably with success, by exhibiting calomel and opium, until ptyalism was produced. Dr. Ayre strongly deprecated the practice of blood-letting, and related some cases which proved fatal under this plan of treatment. In severe cases of lead-colic, Dr. A. said, that delirium was occasionally present, amounting in some instances to absolute raving. With one patient, a female, there were decided epileptic paroxysms. The delirium he considered as precisely of the nature of the delirium tremens of drunkards, and in such cases he administered rum freely, with the calomel and opium; in some instances, the opium alone was given by enema, when the patient was unable to swallow. In the numerous cases of lead-colic which Dr. A. has witnessed, *the pain was much alleviated by pressure;* and in reply to an observation from Dr. Macleod, that paralysis of some part of the body was a frequent concomitant of the colica pictonum, Dr. Ayre said that *he* had rarely met with paralysis in such cases.

Dr. Maclrod confirmed the statement of Dr. Ayre with respect to the efficacy of mercurialization in the affection under consideration, but did not coincide with Dr. A. as respects blood-letting, believing that, as the disease varied in different individuals, so there were cases in which blood-letting is clearly indicated. In confirmation of this opinion, Dr. Macleod spoke of two patients, a father and son, both of whom have had repeated attacks of lead-colic; the father always has great tenderness of the abdomen, and experiences the most decided relief from local and general blood-letting, whilst the son has no tenderness of the abdomen, and bleeding consequently is not resorted to. Dr. Macleod, for these reasons, thought it was judicious practice, on the part of Mr. Duncan, to abstract blood in his case.

The palsy of the wrists, or "wrist drop," said to be produced in painters from the use of lead, was the next point for discussion.

Mr. Bingham thought, that the paralysis was not attributable to lead, but that it arose from the circumstance of the peculiar position in which the painter necessarily holds his brush; and in confirmation of this opinion, Dr. Barry observed, that palsy of the wrists is of frequent occurrence in Ireland amongst the flax beaters, who are not subjected to lead. A friend of Mr. Bingham, it seems, acting under the impression, that the wrist-drop of painters is produced solely from the constrained and constant action of the muscles employed in moving the brush upwards and downwards, has invented an apparatus to obviate this evil, and is about to take a patent for this "grand discovery," as Mr. B. entitled it.

Several other members expressed their opinions on Mr. Duncan's case, and the disease generally. Upon the whole it was an interesting discussion.

ST. GEORGE'S HOSPITAL.

CASE OF STRICTURE OF THE RECTUM.

D. P., a middle-aged man, of a weak habit of body, was admitted into this Hospital on the 12th of September, under the care of Mr. Jeffreys, with a stricture of the rectum. He informs us, that thirteen months ago he had an attack of dysentery, since which he has always been more or less troubled with diarrhœa, attended with great pain; he has also been subject to internal piles, which descend occasionally, and bleed a little; he has taken a good deal of mercury. On examination we find, at the verge of the anus, two large pendulous excrescences; and on introducing the finger into the rectum there is a stricture, about two inches from the anus and just below the stricture at the back part of the rectum, there is ulceration, with considerable hardness around. He was ordered to take an ounce of castor oil to-day, and on the morrow to have the rectum bougie introduced, and to commence taking Ward's paste. He continued this medicine, with some trifling addition, until the 27th of October, when Mr. Jeffreys ordered him one pint of the decoction of sarsaparilla daily, and five grains of blue pill every night at bed time.

Nov. 17. The fleshy excrescences at the verge of the anus were removed to-day; the patient on the whole is much the same.

Dec. 4. The patient was suddenly attacked at seven o'clock this morning, whilst straining at stool, with most excruciating pain at the lower part of the abdomen, attended with a sensation of twisting of the intestines and spasm of the abdominal muscles; the pain was so violent that he rolled about on the floor. Soon after this, vomiting came on, and the pain extended upwards to the stomach; he was directed to take the following draught immediately, viz., one drachm of the spirit of sulphuric æther, half a drachm of laudanum, and one ounce of peppermint-water, and to have the abdomen fomented with poppy fomentations frequently. About nine o'clock the pain in the abdomen had somewhat abated, but there was much tenderness on pressure, and the abdominal muscles still continued very tense; he also vomited occasionally. The

draught was now repeated, and a common enema was injected, which, however, returned without fæculent matter, but there was some blood with it; the man was further directed to take an ounce of castor oil. When Mr. Jeffreys saw the patient, about noon, the spasm of the abdominal muscles had abated, but the tenderness of the abdomen had increased, and the countenance was becoming anxious; he brought up the castor oil soon after taking it. Mr. Jeffreys now directed him to take camphor and calomel, of each five grains, with two grains of opium, in two pills, immediately; and also to take three table spoonsful of the following mixture every four hours: one ounce of sulphate of magnesia, one drachm and a half of compound spirit of sulphuric æther, and eight ounces of camphor mixture.—During the afternoon another clyster was administered, which brought away no fæces: towards midnight the pulse became quick and fluttering, the countenance sunk and anxious, and the vomiting still continued.

5. Has had a restless night; the pain is still very severe. Twelve leeches were applied to the abdomen last night, and he has been put into a warm-bath this morning, without any relief. Some blood has passed per anum, but nothing like fæces have passed. The vomiting still continues, and a brown fluid, of a thick consistence, is ejected. The pulse is quick, 112, weak, and scarcely perceptible; the abdomen is tense, distended, and exquisitely tender on pressure; the patient has not evacuated any urine since yesterday morning; he feels a desire, but has not the power. Mr. Jeffreys attempted to pass the catheter, for a considerable time, but failed.

2 o'clock, P. M. The countenance is sunk, and of a leaden hue; the finger nails are livid, and the feet are cold; the whole body is bedewed with the cold damp sweat, precursory to death. About five o'clock hiccup came on; he then sunk rapidly, and died at seven, P. M.

Post Mortem Examination.

The abdomen having been laid open, the peritoneum, covering the intestine, was found to have been in a high state of inflammation; a large quantity of purulent fluid was discovered, partly in the abdominal and partly in the pelvic cavity. The bladder and rectum, with the sphincter ani, were now removed from the body. On making an incision into the rectum, at its back part, a very extensive ulceration of its mucous membranes was brought into view. The ulceration commencing at the anus, occupied the whole circumference of the gut, for about two inches; above this, was a circle of sound membrane, to about the same extent, the lower edge of which being thickened and contracted, had formed the stricture. Above the sound part, the ulceration had extended upwards, for at least four inches, and in this portion there was an ulcerated opening in the fore part of the bowel, extending through the peritoneal covering into the cavity of the pelvis. At the sphincter ani there was another ulcerated opening, leading to a cavity, of the size of an egg, between the rectum and bladder. Neither fæces nor blood were detected in the abdominal cavity.

OPERATIONS.

On Thursday, the 22d ult. Mr. Keate performed the operation of lithotomy on a boy five years of age. The external incision was made by the scalpel, and the bladder cut into with the *bistouri cachè*. The calculus, which was of a moderate size, was readily extracted, and the boy has done well. On the same day, Mr. Brodie removed some portions of necrosed bone from the tibia of a little girl, and Mr. Rose removed the metatarsal bone of the great toe.

ERYSIPELAS.

To the Editor of THE LANCET.

SIR,—The subject of erysipelas having of late much occupied the pages of your valuable publication, and as I acknowledge myself an advocate for sparing the patient, (when it can be done consistently with safety) the pain necessarily attendant upon incisions made in exquisitely tender and inflamed parts: I have taken the liberty of sending you the following case, to which you will oblige me by giving publicity.

Mary Wensley, a woman of a full healthy habit, was seized, without any assignable cause, with active erysipelatous inflammation, (erysipelas vesiculosum) occupying the whole of the leg, attended with the usual symptoms of irritative fever; in visiting her, the limb was directed to be enveloped in a large linseed meal poultice, powerful aperient medicines were administered, and the antiphlogistic system in every respect rigidly insisted on; notwithstandin this, the erythema continued to extend itself until the entire thigh and leg were involved in one continuous inflammatory action; the same treatment was persisted in, with the occasional use of a spirituous lotion; and although at one period the constitutional symptons became exceedingly alarming, the diseased action gradually subsided, and the patient is now in a fair way of recovery.

Bristol, Dec. 12th, 1827. I. EARLE.

Mr. Earle partakes of the common error; this was not a case for incisions.—ED. L.

THE LANCET.

London, Saturday, December 29, 1827.

The coincidence in the selection of topics, and the style of treating them, evinced by Mr. Colles and Mr. Jacob in their recently delivered introductory lectures, was too close and remarkable to be explained by the fortuitous results of chance; and we are, consequently, compelled to presume the intervention of a preconcerted plot, to account for the personation of the two Dromeos in the comedy of Errors, in the progress of performance at the Irish College of Surgeons, by two individuals with minds so differently constituted. Had they exchanged identities, or distilled their lucubrations from the same alembic, they could scarcely have flowed in a more homogeneous stream, or agreed more perfectly in their political flavour. Of panegyric on the College, Mr. Colles was equally profuse as his predecessor; like him, too, he alluded to the contemplated change in the CHARTER; stated that it was supported by the whole strength of the body, that every exertion was being made with the Government for its attainment, and that the circumstances of the establishment now required, that a *double* system of education be adopted, by which apprenticeship would be optional with the student, as his means or destination suggested; *all* candidates, however, being admissible to an examination. To this announcement of a double system of education, by which we are given to understand the creation of two orders of practitioners of equal professional merits, but of dissimilar corporate privileges, for such is the anomaly propounded in Mr. Colles's discourse, attention shall be principally directed at present. Had Mr. Colles advanced any arguments in favour of the utility of *apprenticeships*, or given any refutation of the reasons so repeatedly urged against the practice, the labour of noticing this part of the subject would have been greatly diminished, as we should then have tangible objects to combat, and an opportunity afforded of examining the validity of the grounds of the opinions promulgated. Of this assistance to the formation of correct conclusions on the soundness of his dogmas, Mr. Colles perhaps prudently deprived his audience; for in no part of his series of abstractions did he, on this occasion, manifest any proofs of the faith that he professed, or venture to reply to the reasoning by which that faith has been so frequently and triumphantly refuted, the whole discourse being a combination of aphorisms, uninterrupted by a single argument. Now, if Mr. Colles conceived that his abstract views on medical education derived sufficient authority from his character alone to convince the public of their conclusiveness, or that the reasons on record against him were not worthy of an answer, he certainly deceived himself in the estimate formed of his own authority, and of the nature of the evidence furnished against his opinions by his opponents. Looking individually to Mr. Colles, it would be rather difficult to discover the cause of so much self-sufficiency; for what has he done professionally, or otherwise, to justify him in demanding the unqualified belief of the public in his statements, without the usual formality of convincing their understandings through the instrumentality of reason and argument? What addition to the scientific reputation of the body to which he belongs has he made? What personal sacrifice has he offered to the advancement of its interests? How has he acquired such an ascendency of character, that the College would consider him an exception to his species, and like the Areopagus with the Grecian philosopher when about to ratify his asseverations by an oath, unanimously declare that his word is sufficient, without any explanation of its truth? It has hitherto escaped observation, that the powers of his

mind were equal to the condensation of evidence into axioms; his most ardent admirers would hesitate to represent his learning as qualifying him to become an oracle on this or any other question; and we certainly never heard that he was inspired earlier than six o'clock in the evening, an hour which emancipated all mankind from the fetters of logical precision in their enunciations. In no personal respect, then, can the cause of his dispensing with the custom of convincing his audience in the usual manner be discovered; but, on the contrary, this duty was imperiously demanded by the circumstances in which he was placed. Arguments against his opinions were well known by him to have been on record; these arguments he was also aware had made a considerable impression on the public mind, from the truths which they contained; and, besides their specific value, were supported by a combination of scientific, literary, and liberal qualifications in their author, to which Mr. Colles could possibly lay no claim. The question of apprenticeships moreover is one purely of evidence, which every individual, even the merest tyro in the profession, is capable of examining; and should be decided by the concurrent views entertained of its expediency, after it had been thoroughly discussed. It is possible, nay, we are willing to admit that Mr. Colles felt all this, and that finding it easier to dogmatize than to reason, or magnanimously to allow the validity of the objections made against the system which he advocates, shrunk from the task of defending a scheme of education in public, which in private he is even said to condemn. What therefore must the recommendation of a proposal by a man be worth, who artfully conceals the dictates of his better judgment on an important measure of this kind, and makes himself the facile instrument of accomplishing the selfish ends of a few hospital surgeons in Dublin? Why, at least, not openly and honestly avow the motives of the party of which he became the organ; and if it be a sufficient justification of the measure, that few individuals must make fortunes by apprentices, candidly state these reasons, that they may stand or fall by their own merits? For our own parts, we see nothing in this double system of education, but the germs of professional degradation, and a further increase of corporate corruption in the College. The precedent of the Dublin College of Physicians, and the partiality displayed towards *hospital apprentices* in Lincoln's Inn Fields, is conclusive testimony of the practical consequences which must result from the adoption of the measure. The usurpation of the corporate rights of the latter institution, effected solely in consequence of a disparity of privilege, by twenty-one irresponsible agents, has notoriously excited the great body of English surgeons to appeal to the legislature, for the recovery of those immunities which are about to be taken in a similar manner from the future practitioners of Ireland. The meditated representations of both bodies to Parliament, must certainly appear to the latter in rather an extraordinary light; the one, like the Helots of Sparta, rising in rebellion against their masters; the others, like the nation conquered by Alexander, and presented with their freedom, seeking as a favour not to be any longer burthened with professional liberty. Well might one of the classical members of the "Collective Wisdom" exclaim, "Qui fit, Mæcenas," &c., on witnessing so striking an illustration of the remarks of the satirist on the diversified discontents of mankind. If we look beyond the narrow limits of Great Britain and Ireland, we find the usage of France, Germany, Italy, and the United States, at direct variance with the proposal of introducing this system into effect in the Irish surgical profession. The students of all these countries it is allowed, attain a superior knowledge of the healing art, than even Mr. Colles' own apprentices; and unless he can demon-

strate some morbid peculiarity in the Irish brain, to prevent the possessor from learning without the sanction of the stamp office, and paying 150 guineas, we can see no good reason why the exaction should be continued, leaving Mr. Cusack's exchequer of course out of sight. But admitting that a secondary class of practitioners is called into existence as an expedient, first, to satisfy the demands of admission to an examination made on the College; and secondly, by the accompanying clause, to exclude them from office and emolument, that the whole corporate powers of the institution may be thus more effectually confined to a few hospital surgeons resident in Dublin.—Can Mr. Colles be so ignorant of human nature as to suppose that this disfranchised class of men, who must mutually become, for obvious reasons, the majority of the surgical profession in Ireland, will be contented with an arrangement which deprives them of the power of rising to that eminence which the talents of many of them must necessarily entitle them to; or that, uniting in self-defence at some future but not distant day, they would not successfully exert themselves in the recovery of their professional and natural rights? He might as well expect that the earth would cease to perform its revolutions, as that men, under such circumstances, would remain quiescent in their degradation. Both he and his party in the College have to learn a secret of which they have not as yet voluntarily shown any intelligence in their announcements, that the profession in future must be governed by those laws only which the majority enact; for, what is the concession made at present, and advocated by Mr. Colles himself, of admitting all candidates indiscriminately to an examination; but the commencement of the operation of this principle of the power of public opinion—a symptom of the infant might of this lately developed truth—which increasing in strength with its duration, must ultimately terminate the reign of monopoly, put an end to the bickerings and low cabals which disgrace a respectable and important profession, and level all distinctions between its professors except those which nature and superior exertion confer.

We believe the day is not far distant when the three British Colleges of Surgeons will be governed by precisely similar laws, and when the members of *either* College will be entitled to the immunities and privileges of the whole.

The draft of a petition, to be presented to Parliament by the graduates of Scotch and other Universities, which we have this week inserted, is understood to emanate from the class of practitioners styling themselves "Independents." It is a document well worth attention, not only because it develops the sentiments of this particular class, but because it establishes a well-marked boundary of separation between those who seek medical reform for the sake of public and professional interests, and those who would make the question of reform subservient to the advancement of their private interests, or to the gratification of their personal vanity.

The absurdity of distinguishing, as far as the principles of medical science are concerned, between the two departments, as they are called, of surgery and medicine, is acknowledged by every professional man capable of reflecting on the subject. As a mere matter of classification it may be convenient to separate diseases which may be cured or alleviated by manual operations, from those which do not admit of cure or alleviation by such means; but to suppose that a different kind or degree of knowledge, or attainments of a different description, are required for the treatment of the two classes of diseases, is a *nugiserie* worthy the Society for the Propagation of Darkness. The distinction attempted to be made between sur-

gical and medical cases, cannot be carried into practice; for how are we to define the limits, where are we to draw the line between such cases? Tetanus may or may not be the consequence of an external injury; is it a surgical case in the one instance, and a medical one in the other? Fever is supposed to be the *peculium* of physicians; but does fever cease to be a physician's case on the occurrence of any symptoms which may require some further use of the practitioner's hands, beyond that of feeling a pulse or touching a fee? Is the subject of typhus, for instance, to be abandoned by the *pure* physicians, on the appearance of an abscess; or is the *pure* surgeon, in case of fever supervening on an operation, to turn over his patient to the *pure* physician? But if the distinction between surgical and medical cases be absurd, still more ludicrous is the notion which besets the "Independents," that practitioners devoting themselves to *medical* cases, are a more dignified class of persons than SURGEONS. Disease, as far as the patients are concerned, is, God knows, a notable leveller of distinctions. The *gout* or *scrofula* of a prime minister differs not from the gout or scrofula of a prime minister's valet; and stone is characterised by the same symptoms, whether the bladder infested by it belongs to a barber or a bashaw with three tails. But though disease levels all distinctions among patients, it creates and sets up distinctions, according to the "Independents," among medical practitioners. If, for example, a patient have aneurism in his ham, which may be effectually cured by an operation, this is a surgical case, to be left to the care of that subordinate practitioner, the surgeon; but if the patient have aneurism of the heart or the aorta, this is a medical case, to be superintended by a more dignified practitioner, to wit, the physician. "The lieutenant before the ancient" exclaim the "Independent" practitioners, "ever while you live, the physician before the surgeon." Let surgeons throughout the kingdom regale themselves with a perusal of the following delectable passage.

"15. In the whole course of proceeding followed by this college, your petitioners can discern no motive having for its object the public good, or the advantage of the profession; its unvarying tendency being, to establish within the profession an odious monopoly,—giving rank exclusively to those who can show no claim to professional superiority; attempting to make the largest portion of British Physicians outcasts and aliens in their own country, and, by the influence of these signal abuses, degrading the whole profession, and exposing it to the encroachments which the *subordinate departments* have so successfully made on it."

And this is the language of men approaching the Legislature, with a view of reforming the abuses and absurdities which disgrace the medical profession! *Subordinate departments*! And to whom are the surgeons of England declared to be subordinate? Why, to the graduates of Scotch universities; to men who have either bought their diplomas for the sum of fifteen pounds —the price whereat the Universities of Aberdeen and St. Andrew's had sold their certificates of ability, to all comers or senders; or, at the best, to men who have graduated at Scotch universities, where undoubtedly some opportunities are afforded of acquiring medical information; but where, up to a very late period, human dissections formed no part of their *curricula*, and where candidates are seldom or never rejected for incompetency. Even the old ladies of Apothecaries' Hall once rejected a candidate for incompetency. The case is upon record. SNEAK, in the farce, once ventured to insist upon a "bit of the brown," and the old ladies of Apothecaries' Hall once rejected a candidate for incompetency! But the vigour of the old dames, like SNEAK's, was of short duration; they soon relapsed into imbecility, and admitted the candidate on a second trial, although, even on his final examination, he could not tell the difference between his *sinciput* and his *os calcis*; that is to say, although, in point of anatomical know-

ledge, he did not know his head from his heels.

We recommend to the "Independents"—to such of them at least as are capable of profiting by the recommendation—an attentive perusal of the letter which follows this article, written by one of the *subordinate* class of practitioners—Mr. LAWRENCE. It may teach them, that talent is the only legitimate title to medical rank, and that, in a scientific profession, no distinctions should be recognised except those which are founded on intellectual superiority; and when they have learned, that in the medical profession rank should be synonymous with ability, they may see the absurdity of calling upon the legislature to recognise higher and lower, or, which is the same thing, competent and incompetent practitioners, and to "arrange" the profession into departments according to the greater or less degree of skill possessed by its members. They may see, that the only rational basis on which the profession can be established is that of equal professional attainments—no matter when, where, or how acquired—among all its members, to be ascertained by the only adequate test of qualification—a searching, efficient examination.

The public have long scouted mere verbal grades of medical distinction, and have looked, not to the assumed rank, but to the actual ability of the practitioner. Hence the encroachments absurdly complained of by physicians, who cannot persuade the public of their ability by assuring them that they belong to a dignified class of practitioners. The public have moreover had the benefit of an excellent example in the highest quarter, for the SOVEREIGN himself has, with his usual tact and discrimination, distinguished by his special countenance and favour men belonging to what are denominated by the "Independents" the *subordinate* departments of the profession.

MR. LAWRENCE

ON THE TREATMENT OF PHLEGMONOUS ERYSIPELAS, IN REPLY TO MESSRS. COOPER, TRAVERS, AND BUTTER.

To the Editor of THE LANCET.

SIR,—Although Mr. S. Cooper has thought fit to transfer the discussion on the treatment of erysipelas from the meeting-room of the Medical and Chirurgical Society to your pages, after neglecting the opportunity which the renewed debate afforded him, of stating his sentiments when I could have immediately replied to him; and although Mr. Travers, violating the first rules of courtesy and fairness, and unmindful of that impartiality which it was particularly incumbent on him, as President, to have observed, spoke, after I had left the room, on one point of the treatment recommended by me, with a freedom of comment closely bordering on personal disrespect; it was not my intention to have noticed either the letter of the former, or the reported speech of the latter. I had determined to let the matter rest until the printing of my observations should enable the profession to judge correctly of my opinions, respecting the pathology and treatment of erysipelas, and to estimate the facts from which they have been deduced. I should thus have afforded Mr. Cooper the gratification of having the last word, on which he seems, like many disputants, to set a high value. However, the letter of my former pupil and friend, Dr. Butter, in No. 224 of THE LANCET, absolutely requires notice, and thus compels me to alter my determination. For, if I had replied to the Doctor's letter, and left the prior attacks unanswered, it might have been inferred, either that I admitted their justice, or felt incapable of repaying their authors in their own coin.

I have always respected the energy and industry of Dr. Butter, and esteemed his character: no unkind or unfriendly feeling has ever entered my mind towards him, and I disclaim all intentional disrespect and unfairness. From the mode in which he mentions that he had directed his bookseller to send me a copy of his work, I am led to fear that I did not acknowledge the present; if so, I apologise for the omission, and tender my sincere though tardy thanks.

Dr. Butter must have written his letter under the influence of extreme irritation; for he seems to have forgotten, that two opposite charges cannot both be true. The mutually contradictory nature of the accusations in the following quotation, will be immediately apparent: "I am the more surprised not to find some notice or mention

made of this book by Mr. Lawrence, who, by your account, has read before the Society a most elaborate, long, and practical paper on erysipelas, *availing himself obviously of the information in my book, and yet studiously avoiding any mention of it*; and when his attention was drawn to it by an anonymous speaker on the 27th of October, then he was silent on its contents. From one of two motives must this silence, on the part of Mr. Lawrence, have arisen: 1st. Either that he is or was ignorant of the work itself; 2dly. Or, *that he inculcates a practice opposite to that advocated in my book.*" If the latter supposition were true, which it is not, I should not feel it necessary to offer any explanation or defence. As to the former, I will only say, that if any individual, after reading Dr. Butter's letter, or a few pages of his book, should think it possible that I could steal his cases, his reasoning, or the smallest portion of his scientific or literary property, I will then think of seriously defending myself, and not till then. Dr. Butter continues: "if he adopted and recommended a practice diametrically opposite to that which the deduction from this book justified, why did he not candidly notice it, admit the value of the cases," &c. The Doctor's notions of medical reasoning are most extraordinary; he thinks his cases ought to have been quoted in support of a practice diametrically opposite to that pursued in them! What would he have expected in the converse of this case? that is, in the supposition of my recommending the same treatment which he himself advocates? For this, as I proceed to show, is the fact. If Dr. Butter had allowed himself to become cool, and had then again perused my observations reported in THE LANCET, No. 221, he would have seen that I carefully separate what he has, I hope unintentionally, jumbled together; viz. the treatment of simple and phlegmonous erysipelas. I have expressly stated that bleeding will not stop the latter, and that its course may be arrested by incision through the affected structures; this is precisely the inference to be drawn from Dr. Butter's book, and the only useful information that I can extract from it. The case of Reeves, which is the only one seen by Dr. Butter himself, was treated precisely according to my views; that is, by incision through the inflamed parts;* the sudden relief and the rapid recovery of this man, form a strong contrast to the fatal result of twelve out of the fifteen cases recorded by Dr. Butter. The inflammation "occupied the small part of his left leg, from the inner ancle to the calf," and the incision exceeded five inches in length. Suppose the inflammation had occupied the entire leg, or the leg and thigh; would Dr. Butter have made an incision of five inches only? if he had, he would have benefited his patient very little. Would he not proportion the extent of his incision to that of the local mischief, which it is intended to relieve? The Doctor speaks of my recommending an incision of fourteen inches, as if I had advised that specific length in all cases! I cannot regard this as an unintentional misrepresentation; it is too glaring to be accounted for even by the irritation under which the letter was obviously penned. I have recommended generally "the practice of making an incision through the affected textures;" and I have afterwards said, "the longest I have made in any case was fourteen inches." Let it be remembered, that I have treated several patients, in whom the greater part of the upper or lower extremity, or the entire limb, has been affected.

If Dr. Butter could have repressed the ebullition of his feelings until the printing of my observations and cases, he would have found that I take notice of his publication, and consequently, that the very ground of his loud and inconsistent complaints is imaginary. But if I had not, he would have had nobody to blame but himself; for never did an author succeed more completely than he has done, in concealing the subject of a book by its title page. Could any one have fancied or even dreamed, that a disquisition on phlegmonous erysipelas would be sent forth to the world under the title of "Remarks on Irritative Fever, or Plymouth Dock-yard Disease?" *Irritative fever! Plymouth dock-yard disease!!* and these associated by an *or*; one unmeaning expression employed to explain another! When Dr. Butter takes up his pen again, let him endeavour to affix some clear meaning to the phrases *irritative fever*, *irritative inflammation*, and *constitutional irritation*; let him show, if he can, what he has not yet shown, that they have a meaning, and that they mean something which is not included under other familiar expressions.

This book contains the details of fifteen cases, the author having seen only one of them himself; yet he modestly states, that "they will be found more useful, I will venture to affirm, in settling the disputed treatment of eryaipelas, than any given number of cases ever laid before the public." I can by no means agree with him in this opinion. They do not represent the ordinary course

* My observation refers merely to the employment of this particular measure. After the incision, bark and ammonia were freely given, and the patient was allowed porter, wine, brandy, and broiled chops. The cases which I have treated neither required nor admitted such means.

of erysipelas; it will be sufficient to say, that twelve patients died out of fifteen; and yet the circumstances occasioning the unusual mortality, are not apparent. The value of these histories is much lessened by the circumstance of the author not having seen and described them himself, but been obliged to collect the facts from others, partly even from relations and attendants, and at some distance of time from their occurrence. Having been at the pains of blowing up these few cases into an 8vo. volume of 300 pages, the Doctor estimates their importance by the trouble he has taken; he would have acted more wisely if he had reversed the proceeding; if he had settled the value of the cases first, and then determined the amount of labour that might be advantageously bestowed on them. Having neither leisure nor taste for this inflating process, I could not think of following the Doctor's example, and am firmly persuaded that this kind of literary soufflé would have been deemed very unsubstantial and unsatisfactory fare by the Medical and Chirurgical Society.

Dr. Butter is as vain of his authorship as a beauty of her person: the mere appearance of insensibility to their charms is resented as an affront by the fair sex, and in the same way, the Doctor is highly incensed because he is not noticed. The sentiment of self-esteem bubbles up at every point through his whole letter, with a sparkling freshness that is quite delightful; the spring is too copious to brook restraint, and runs over on all sides. The undisguised and open exhibition of this feeling, in its genuine state, makes the letter much more amusing than the book. We are promised another communication, which I hope will be exactly in the same style. I beg the Doctor will not spare a single severe remark on myself. Indeed, independently of the amusement which his letter afforded, the smart of his castigation was effectually removed by the complimentary emollient with which he buttered me over, and for which I thank him.

I must, however, before parting, correct two or three misapprehensions under which the Doctor labours at present. A knowledge of the commonest points in practice is not confined to the classic region of Plymouth and Dock. We knew in London, before the Doctor's letter was published, "the necessity of bleeding some patients with erysipelas, particularly the gross and full;" and the "propriety of hesitating to bleed thin and cachectic people."

Not contented with criticising and reproving my opinions and practice, the Doctor has given me a friendly hint on a matter of taste. In his hurry to appear before the public, he has jumbled and confused every thing, and thus has given me the credit of Mr. Brodie's phrase of "*putting out*" erysipelas and typhus. "These figurative expressions," he says, "ill suit the sober and variable practice of physic." Thus it is actually written, Mr. Editor, *sober* and *variable*! But he cannot be consistent for two sentences together, and immediately commits the very fault he has reproved, observing, that "erysipelas is not to be cut down with the lancet, *like an olive branch*." I beg to apprise him, that we do not use our lancets in London to "cut down olive branches;" a proceeding which we should deem as unprofitable and unwise as the attempt to cut blocks with a razor. Lastly, patients with compound fractures in London do not in all or nearly all instances lose their lives. "Almost every case of compound fracture does well in the country," says the Doctor; "*but in London it is a most rare occurrence to find a person surviving such an accident.*"* I hope that this extraordinary assertion is not a sample of his average correctness; if it is, he certainly will not be often quoted as an authority for matters of fact.

When Mr. Hutchison first recommended incisions in the treatment of phlegmonous erysipelas, the practice was hastily and intemperately condemned by Mr. S. Cooper, although he had no experience of it, and appears to have comprehended very imperfectly the kind of cases in which it ought to be employed, and the effects it is capable of producing. I cannot perceive that he has changed materially in either of these respects. Having once dogmatically decided on the point, he seems to have thought it essential to his dignity, as an author, to maintain his original opinion, which he has done with great firmness and little scrupulousness in selecting the means of opposition. His letter, printed in THE LANCET, No. 218, contains a complaint of inaccuracy in your report of his observations at the Medical and Chirurgical Society; yet he has shown no inaccuracy of any consequence, and we therefore naturally conclude, as you have suggested, that the *brevity* of the report was the true cause of dissatisfaction; that the record of the observations did not correspond in length with Mr. Cooper's notion of their importance. Of the several speakers on the same occasion, there certainly was not one who had less reason to complain of your report than himself. Indefatigable in his opposition, Mr. Cooper has sent you another letter (No. 222), in answer to your report of my reply. His quiver is not yet exhausted; for he announces in the last letter his "in-

* Remarks on Irritative Fever, p. 176.

tention to enter more minutely, at a future opportunity, into a critical examination of this practice; and it will then be seen, that I am very far from having brought forward every argument capable of being urged against it." Mr. Cooper imitates the example of those generals who place their chosen troops in the corps de reserve, and keeps back his strong arguments for the great effort. Although this will account for the weakness which I shall point out in the attempts he has hitherto made, and may be regarded as a good specimen of tactics, I cannot consider it a handsome mode of treating either the Medical and Chirurgical Society, or your readers.

In allusion to the practice recommended in my paper, Mr. Cooper says, "Few proposals, supposed to be new, are now ever made in surgery, *bad as they may be*, without some little contest taking place about the honour of having first suggested them." And he concludes, "no doubt many cases of severe phlegmonous inflammation might have a large cut made in them, and yet the patients recover [Query, Is it not a new proposal to make a cut in a case?]; *but escapes, notwithstanding bad treatment*, should always be discriminated from *cures* promoted by truly efficacious measures." LANCET, No. 222. I entertain a due sense of the flattering compliment conveyed in these sentences, and think it will be most suitably acknowledged by imitating the example of plain speaking, which they hold out.

I must begin by correcting Mr. Cooper's first statement, and proving to him, or at least to your readers, that a new proposal may be so bad, so dangerous, so extravagantly absurd, as to remove all fear of contest for the *honour* of priority. It has been coolly proposed, Mr. Editor, in the case of an injury of the head, attended by symptoms supposed to indicate compression, but not accompanied with wound or fracture, to bore a hole over the track of the spinous artery, (in doing which, the thick part of the temporal muscle must be cut through and detached—but that is a trifle to what follows,) in order to see if there is any extravasated blood under the bone, and if no blood should be found there, to bore another hole, in the hope of finding some on the opposite side! Would not you, Sir, venture to guarantee to the author of this perfectly novel proposal, uncontested possession of all the *honour* that may accrue from it? You will find it in a book entitled "The First Lines of the Practice of Surgery, designed as an *Introduction to Students*, and a *Concise Book of Reference for Practitioners*."* It may reasonably be supposed that this proceeding has been employed on many patients, either by the author or by the students and practitioners, to whom he has been a guide. As to the cases which have thus had—not "a large cut," but—a double boring made in them, without a fatal result, if indeed there be any such;—in which of Mr. Cooper's two classes shall we arrange them—the "escapes" or the "cures?"

The earnestness and pertinacity with which Mr. Cooper combats the practice of incisions in phlegmonous erysipelas, might at first be supposed to depend on copious personal experience of their pernicious effects; but this is not the case; and it is doubtful whether he has even seen a single instance of the treatment; so that his continued opposition rests on no better foundation than his original inconsiderate censure. He has, however, endeavoured to supply from other quarters the deficiency of his own experience; and has gleaned every particle of unfavourable evidence with great zeal and industry, and very little nicety of selection. It will be necessary to submit to a "critical examination" the matter which he has thus collected. In his first letter (LANCET, No. 218), in order to prove, as he phrases it, "that the practice is not infallible," he mentions three cases; in one of which, "where the knife had been freely used in an early stage of the case, in the manner suggested by Mr. Hutchison, the patient recovered with great difficulty, and not without sloughing of the greater part of the integuments of the arm." In his second letter, he gives the following further details of this case: "The fact is, that the case treated on Mr. C. Hutchison's plan was seen by me, under Mr. Vincent, in St. Bartholomew's Hospital. It was not an instance of mere sloughing of the cellular substance after the incisions, as Mr. Lawrence supposed, but a case in which a great part of the integuments of the arm was destroyed, the limb permanently crippled, and the patient's life nearly lost. *It is not for me to pronounce what share the incisions had in bringing on so unfavourable a termination*; and the only inference which I presume to make is, that the practice, *severe as it is*, will some-

* As some readers may be incredulous, the *ipsissima verba* of the proposal are subjoined: "Even when there are no external appearances to determine the place in which the trephine should be applied, and the above urgent symptoms prevail, it may still be proper to perform the operation. Perhaps in the midst of such obscurity and danger, it might be justifiable to make a small perforation in the course of one spinous artery of the dura mater; if this should not detect the seat of the extravasation, another perforation might be made on the opposite side of the head."—Third edition, *thoroughly revised, carefully corrected*, &c. p. 260.

times fail, like all other means, in arresting the progress of the disorder." I certainly must express my concurrence in the latter profound remark, and my belief that it is equally applicable to all other means of treating all serious diseases. I doubt whether even the *wild* practice of double boring the skull to search for blood will form an exception. Now, Sir, if Mr. Cooper, in his second letter, could not pronounce what share the incisions had in bringing on so unfavourable a termination, why did he boldly bring forward the case in the first instance as an example of the bad effects occasionally resulting from incisions? No one can doubt that he would have ascribed the sloughing to the incisions, had it been possible for him to do it with any plausibility: since he has not screwed his courage up to this point, we may safely presume to infer that they did not cause it, and consequently that the alleged fact is totally irrelevant to the question at issue. Mr. Vincent has informed me, that in this case, which happened four or five years ago, instead of *the knife having been freely used*, only *small punctures* were made, and that he has seen no reason to ascribe sloughing of the integuments, or any other bad consequence, to incisions or punctures in any cases that have been under his treatment.

The two others on which Mr. Cooper lays so much stress, are cases of which I have myself furnished the details to the Society. In one of them, Mr. Cooper roundly asserted, "that the patient never revived from the shock communicated to the system by an enormous wound on the erysipelatous parts," as if he had personally witnessed and known the fact. In his second letter, he quotes, for this opinion, the medical gentleman who attended the case. I must observe, that it is not always easy to determine the cause of death, especially when we are deprived of the light which examination of the body is capable of affording; and hence it is not uncommon for differences of opinion to exist even among those who have seen the progress of a disease. In the unfortunate case, about which Mr. Cooper speaks with so much certainty, I feel myself quite in doubt on this point. The publication of the full details, which I have communicated to the Society, will enable the profession to judge: in the mean time, I refer to the few particulars contained in your report of my reply at page 321, to show that Mr. Cooper's statement of "the patient never having revived from the shock," &c. is by no means correct, and that the evidence adduced by himself has been received without any of that "critical examination" which he threatens to employ against the practice of incision. I may observe further, that Dr. Back saw this gentleman after the incisions had been made; not having had the pleasure of meeting him, I do not know his opinion, but I understood that he did not think unfavourably of the case.

In the instance, where syncope and death ensued from bleeding after incisions (see LANCET, vol. xii. p. 669), the fatal event is obviously referrible to circumstances, which may in future be avoided; it was not necessarily connected with the operation. The greater caution suggested by this very case would effectually guard against the repetition of such an occurrence: nothing could be easier than to limit the loss of blood to a few ounces, or to prevent it altogether. An opponent, anxious for the cause of truth, would have scorned the paltry triumph that could depend on such a case as this. Mr. Cooper, however, is so poor in facts, that he cannot afford to be nice, and thankfully accepts the smallest donations. Of this humble disposition he has given a strong proof in his second letter: "To these bad cases may be added a fourth, which I might have visited; but as it was announced to me that the patient was in articulo mortis, and some business required my attendance in another direction, I declined to be in at the death." As this statement proves nothing, it must have been introduced for the sake of the concluding joke. The very witty and perfectly original remark about being in at the death may be elucidated by a former part of this letter. One who has for many years practised double boring the skull in search of blood, must have been very often *in at the death*; so often, as to become rather tired of the spectacle, and a little nervous. The list of deaths will be much enlarged if the students and practitioners, to whom the practice has been recommended, should have adopted it. What a frightful band they would make, appearing as bloody-headed spectres in a troubled dream, each pointing to the fatal holes in his temporal fossæ!

Mr. Cooper has attempted to show from his own practice, that incisions are not necessary in phlegmonous erysipelas. "I also mentioned," he says, "that seven cases of erysipelas had been attended by myself, in the course of the last eight months; and though some of them were of a very severe form, corresponding in every respect to phlegmonous erysipelas, they all had a favourable termination; and that, in only one or two of these examples, had it been necessary to make a small opening or two, for the discharge of matter."—p. 180. I must remind Mr. Cooper, that the logicians of the dark ages viewed general assertions with great suspicion. Their distrust has passed into a maxim, which may afford a salutary caution; *dolus latet in generalibus*. If, therefore, Mr. Cooper wishes to strengthen his arguments by the support

of facts, he must present them not in a mass, but in detail, with the particulars of time, place, and other circumstances, so as to enable others to judge of them as well as himself. After the foregoing specimens of the mode in which he sometimes allows himself to deal with facts, he must expect that his cases will be rigorously scrutinised. Of the numerous histories which I have presented to the Society, hardly any depend on my own testimony only; the majority have been derived from St. Bartholomew's Hospital, and have been, in great part, noted by my pupils, many of them having been seen both by members of the Medico Chirurgical Society, and by other practitioners. I may add, that the notions which I imbibed from my teachers, respecting the nature and treatment of erysipelas, were quite different from those I now entertain; the latter having been entirely formed in opposition to the prejudices of education, from the facts which have come under my own observation. I have not set out with declaring an opinion, and then sought facts to support it.

I now take leave of Mr. Cooper, observing only, that although "I am yet very far from having brought forward every argument capable of being urged" on the occasion, I do not mean to enter into any further "critical examination" of his opinions or statements, being satisfied with having now enabled the profession to estimate them at their just value, and not designing from this time forth, either to quote or allude, in any way, to what he has written on erysipelas.

I profess myself a friend to free discussion, and consider that the utility and interest of the Society's meetings will be greatly promoted by the allowance of free comment on all that may be brought forward. Mr. Travers, like any other member, might with perfect propriety have addressed the Society in opposition to my opinions and practice, in terms as strong as he might think proper, before I made my reply. But I think that he forgot himself when he condescended, in his character of president, to indulge in an intemperate sally after I had replied, and had left the Society on the supposition of the debate being closed. The proceedings of our Society are not like those of a court of law, where it is necessary that a learned person should preside, to arrange, compare, contrast, and reason upon evidence, and show the application of law to facts, for the guidance of the comparatively uninformed jury. The numerous professional persons who composed the meeting of the Society, were as well able to judge of the debate as the president. But, if he chose to assume the functions of judge, he should not have forgotten the essential attribute of impartiality, and have allowed himself to espouse one side of the question with the warmth of an advocate. I certainly did not send my observations to the Society for his judicial decision; had such an idea been started, I should have objected to the competency of the tribunal. A judge should be clear-headed, cool, impartial; he should possess sound judment, matured by long experience.

Mr. Travers stated, according to your report, the accuracy of which has been confirmed to me by those who heard what he said, that "as to carrying an incision along a limb to the enormous extent of fourteen inches, or even half that length, it appeared to him to be a practice better fitting the dark ages of surgery than the present times. It was a practice terrible to the patient and revolting to the by-standers. He felt it his duty to protest against making such long incisions, as had been recommended, as an unnecessarily severe, alarming, and dangerous practice." Such then are the modern lights of surgery! Important points of practice are to be determined, not by the results of experience, and the dictates of reason, but by the opinions of patients and bystanders, that is, of nurses, friends, and domestics. The President does not even avail himself of the cool and deliberate opinions of these excellent judges, but appeals to their terrors, to the natural dread of pain, to the anxiety and agitation of those around, and their alarm at the unusual sight of blood. How would this sentimental affectation have been scorned by the manly sense of the ancient masters in our art! I can venture to assure the President that the horrors of this treatment are much exaggerated by his lively imagination, which, on this occasion, has completely outrun his judgment. He will find, on cool reflection, that a superficial cut, which is completed in a few seconds, gives much less pain than many an operation which he would regard as perfectly trifling. When he speaks of the enormous extent of an incision, fourteen or seven inches long, does he reflect on the length of the cut through the skin in amputating a thigh or a leg? It is not, however, worth while to examine such remarks seriously. Most of the cases which I have treated, have been seen by the numerous students of St. Bartholomew's, including many individuals whose knowledge and experience render them very competent judges. Many of them have also been observed in their progress by physicians and surgeons, among whom I may name Drs. Tweedie and Crawford, Messrs. Stanley, Arnott, Welbank, Mackelcan, and Duncan. I will confidently appeal to any or all of these witnesses, first, as to the alleged severity and terror of the treatment, and secondly, on the more important point of its

efficacy in terminating the sufferings of the patient, and arresting formidable disease.

I have twice seen the practice adopted in the cases of surgeons, and with the most favourable results. Their testimony on such a question will possess a degree of value, which does not belong to that of ordinary patients; and, as the cases admit of being shortly stated, I will subjoin them.

A general practitioner, residing in my neighbourhood, consulted me on the 8th of October for an inflammation of the hand and fore-arm, which had commenced on the third, and had been treated with leeches, fomentations, and poultices. The whole back of the hand was elevated into a very considerable, tense, and firm, red swelling; the wrist and fore-arm were swollen and red to the elbow. The pain of the limb was excessive, and now extended to the axilla, being accompanied with the usual constitutional symptoms. I made an incision through the back of the hand, from the wrist to the fingers, and a shorter transverse one, joining this at right angles. The hand was immersed in a large basin of warm water, to encourage the bleeding, when, in about two minutes, the patient said that the pain and tightness were gone, and that he was perfectly at ease. I advised 18 leeches to the fore-arm, fomentation and poultices, rest, antiphlogistic regimen and medicine. "On the 10th of October," says this gentleman, who has furnished me with an account of his case, "I was enabled to extract (with the hand that had been inflamed) a molar tooth for a patient; nor has there been the slightest sign of inflammation since, though I have had occasion to use considerable exertion."

The other case, that of a medical student, who had pricked his finger in opening a body, was under the care of my colleague, Mr. Earle, who has described it in detail in the Medical and Physical Journal, January 1827. This gentleman was taken ill in the house of his father, an experienced and judicious practitioner, and attended throughout by his brother, also in the profession, as well as by two very sensible and well-informed professional friends. Pain came on in the finger during the night after the accident, and the first phalanx had lost its vitality in the course of the next day. In spite of leeches, venesection, aperients, opiates, antimonials, &c. &c. inflammation spread from the finger to the shoulder, with the most excruciating pain, and the worst constitutional symptoms, such as entire want of sleep, delirium, brown tongue, altered countenance. On the sixth day, Mr. Earle had informed me of this gentleman's danger, and that he did not expect him to recover. On the eighth day he said that he was much worse, and he requested that I would see him, not with the expectation that any thing could be done, but as a satisfaction to the friends, and some diminution of his own responsibility. I found him with the entire upper extremity, as far as the shoulder, swollen, tense, firm, and of a deep red, with a rapid pulse, most anxious countenance, and an assemblage of the most unfavourable symptoms. I told Mr. Earle, that the practice of incisions offered the only chance of saving life; that I did not consider the case as hopeless. He said that he had had no experience of the treatment, but immediately acceded to my proposal, and made three incisions, one in the arm and two in the fore-arm. The limb, having been laid in a folded sheet, was covered over by the bed-clothes, when, after sometime, the patient was observed to become faint. It was now found that he had lost an enormous quantity of blood, and that a small artery required a ligature. The blood was carefully collected in a wash-hand basin, and was estimated by the patient's father at three pounds and a half; he feels certain, that it exceeded three pounds. Before the incisions were made he had given up all hopes of his son's recovery; so complete and sudden was the relief they afforded, that in six hours after he had discarded all ideas of danger. The cure, indeed, proceeded from this time uninterruptedly towards recovery, and I believe that the motions of the hand and fingers were perfectly restored. The patient, his father and brother, Mr. Earle, and the immediately attendant professional friends, are all convinced that he owes the preservation of his life entirely to the incisions. Mr. Wardrop saw the case a few days after they had been made. The very great loss of blood in this case took place without those immediately about the patient being aware of it. That the hæmorrhage ought to have been stopped earlier is almost too obvious to require mention.

To any gentleman who may be disposed to verify these facts, I shall be happy to give the necessary references. They strikingly illustrate the most important effect of treatment by incisions; viz. its power of suddenly arresting the inflammatory process. I have seen severe phlegmonous erysipelas of the entire leg and thigh, when the aspect of the limb from enormous swelling, general redness and vesication, was really appalling, suspended in the same decisive manner, by a single incision along the middle of the calf.

Mr. Travers affirms, that this practice is only fit for the dark ages of surgery. It is probable that differences of opinion will ever prevail respecting light and darkness,

as well as on all other matters which are to be estimated by human sense and judgment. I need not remind Mr. Travers that there are morbid states of the eye, in which imaginary lights are seen; in which, although the figure, magnitude, colour and surrounding relations of external objects, are distorted, perverted, or strangely confused, the patient is even annoyed by sparks, coruscations, or offensive luminous glare. Do we not know, that there are also false lights of the mind, which confound and bewilder, instead of assisting the judgment? Under their deluding influence, imaginary phantoms may be regarded as real existences, while the forms and proportions of familiar objects are altered and mistaken, and they are forced into unnatural and discordant union. To a heterogeneous assemblage of this kind, which presents no intelligible sense to the minds of others, a medical observer may give the name of constitutional irritation, and contemplate the fantastic creation of his own brain until he believes in its independent existence. He may even go so far as to talk of the reflexion of constitutional irritation;—the reflexion of a non-entity! —the shadow of a shade!

I will make a proposal to Mr. Travers, which he cannot, or at least ought not, to object to. Instead of writing a book on *reflected irritation*, let him compose a communication on the same subject for the Society, and allow three nights for its examination, as in the case of my paper on erysipelas. We shall certainly have crowded meetings, and ample discussion, in which the question he has started, of surgical light and darkness, may be fairly brought to issue.

I remain, Sir,

Your obedient servant,

Wm. Lawrence.

18, Whitehall-place, 15th Dec. 1827.

P. S. In the present volume of the Lancet, at p. 416, the following passage occurs, in the report of a case of fractured skull, treated by Mr. Travers:—"Mr. Travers, on visiting the patient to-day, remarked to the pupils, that the present was a case of diffuse inflammation of the cellular tissue, *above* the tendon of the occipito-frontalis, being, in fact, what is called *erysipelas of the scalp*, which is so commonly observed to follow even the slightest injuries to this part. Mr. Travers further observed, it was a case in which some persons would cut down upon the parts, in order to prevent suppuration; but he was not an advocate for such practice." If this observation was meant for myself, as I conclude it was, I take this opportunity of representing that it is altogether incorrect. During the debate at the Society, I expressly stated in my reply, to which Mr. Travers paid marked attention, that I had employed incisions in erysipelas of the head under two circumstances only, namely, when the cellular substance of the upper eye-lids has been seriously affected, and when the copious cellular tissue, *under* the aponeuroris of the occipito-frontalis, has been inflamed. I have never employed incisions in such a case as that mentioned by Mr. Travers, which I should arrange under the head of simple, and not phlegmonous erysipelas. I have lately had instances of it under my care at St. Bartholomew's, and one in which the inflammation was considerable; it yielded, however, to the ordinary antiphlogistic treatment. This simple erysipelas of the scalp seldom terminates in suppuration; so that the reason for the supposed practice does not exist.

While I was writing the foregoing letter, I received a communication from Mr. Cooper, respecting the case cited by him as having been treated by Mr. Vincent. Although I need not refer to what he says on this subject, which is left just as it stood before, I subjoin the following passage, in which he points out an error in your report of another case treated by Mr. Vincent: (Lancet, No. 223.) "The two incisions are represented by Mr. Vincent to have been each five inches in length, and not three, as stated by the reporter of the case. This increased measurement would not, as you may conceive, lead me and many others to entertain a higher opinion of the practice; but it deserves notice, as the writer in the Lancet seems to aim at making the case appear an insufficient specimen of your plan, partly on account of the smallness of the incisions."

When phlegmonous erysipelas has been allowed, as in the case alluded to by Mr. Cooper, to extend over a whole limb, and proceed to suppuration and sloughing of the cellular texture, I think it of no consequence whether the cut measure five or three inches. The time at which the practice is adopted is a much more important consideration. The incisions were made on the fifth day after the patient's admission into the hospital; had they been made of suitable length on the first day, when, according to the report, all the indications for this treatment existed, I am confident that the extent of local mischief, and the time occupied in recovery, would have been greatly abridged.

MR. ABERNETHY'S PORTRAIT.

To the Editor of THE LANCET.

SIR,—It is now more than twelve months since, through the medium of your pages, I made complaint that the Committee, who undertook the management of the Portrait of Mr. Abernethy, had never fulfilled their engagement with the subscribers, though about twelve years had elapsed since the money was contributed for an etching and an engraving; the former at one guinea, and the latter at two for each impression. I refrained, at that time, from naming the gentleman to whom I paid my subscription, from a desire to spare him *unnecessary* publicity, and from the belief that he was not individually responsible: I also withheld some circumstances connected with the *origin* of this portrait, which might not have been very agreeably published, in the hope that a little time would have put me in possession of the engraving. In this I have been disappointed, in common with the rest of the subscribers, to whom the Committee have not condescended to explain the cause of so long a delay. I have heard, indeed, but from no authority, that they improvidently advanced *all* the money, before the work was *half* completed; and that, in consequence, the artist (*Brayley*) had come to a stand still. If this be a true account, Mr. Editor, is it not but common justice that they should stimulate him with a little of their own cash, to put a finishing stroke to his work, and to the repeated complaint of an

ABERNETHIAN?

P. S.—Being a bit of a Sangrado myself, and having a high respect for Mr. Lawrence, I should be glad to hear if his fever was "*put out*" by the loss of the seventy ounces of blood the other day. Whatever was the result of the treatment, it ought, I think, to be made public, for we country folks know nothing about him, after he left the Society.

Bucks, Dec. 11, 1827.

[The letter of Mr. Lawrence in the present Number, amply testifies to the excellence of his health, both bodily and mental.—ED. L.]

INJUSTICE TO DRESSERS AT ST. THOMAS'S HOSPITAL.

To the Editor of THE LANCET.

SIR,—I conceive that when a student enters himself as dresser to a surgeon at a public hospital, he pays the premium as a consideration for the advantages and immunities connected with the duties of his situation. I consider also, that in this mutual interchange between the surgeon and student, there is an implied compact, by which the former guarantees to the latter those privileges, both relative and collateral, which custom may have established. These points being conceded, I presume that I have a fair ground of complaint, arising from a measure which has lately been adopted in this establishment. It had hitherto been the province of the dressers to perform the post-mortem examinations of such of their patients as were submitted to necroscopic inquiry, a privilege essentially necessary to an attainment of that knowledge, which is the only true foundation of a just and rational practice—I mean pathological anatomy. A week or two since, however, it pleased the authorities here to appoint the two demonstrators to the office of inspectors of bodies, and a notice of the time appointed for the examination, is sometimes condescendingly stuck upon a board crowded with such a miscellaneous assemblage of placards and bills, that an inquiring eye recognises it with difficulty amid the heterogeneous melange by which it is surrounded. If this paper escape the observation of the dresser, or the period fixed happens to be at the time of his going round with the surgeon, *which it generally does*, he is precluded the opportunity of obtaining even a peep at the operation, the value of which cannot be sufficiently estimated, nor its practical applicability justly delineated, by persons unacquainted with the history of the case.

I remain, Sir,
Your humble servant,
A DRESSER.

St. Thomas's Hospital,
Dec. 26, 1827.

GUY'S HOSPITAL.

CASES OF PHIMOSIS, TREATED BY MR. MORGAN.

THE following are notes of the treatment employed in three cases of inflammatory, or as it has been called, *accidental* phimosis; and they serve to illustrate not only the general features of the disease, but also its peculiarities, whether arising from the local circumstances of a greater intensity or longer continuance of inflammation, or from constitutional causes.

CASE 1.—*Phimosis, in its simple inflammatory Stage, with Gonorrhœa and Sores on the inner surface of the Prepuce.*

J. C. ætat. 27, a hard-working man, accustomed to drink freely of porter and gin, was admitted into the Venereal Male Ward

on the 31st of October. He had laboured under gonorrhœa for six weeks, and soon after its appearance had applied to a quack, who administered mercury to ptyalism, continuing its action for about a week. The penis became red and swollen, several days before his admission, but he continued his ordinary employment, taking stimulants as usual, and allowing the part to hang down.

When admitted the prepuce was very much swollen, being in fact in a state of intense inflammation, and the redness extended some distance down the penis: upon pressing the glans the patient complained of much pain, and purulent matter issued abundantly from the orifice at the end of the prepuce.—It had, however, become so much contracted from swelling, that it was not possible to detect from whence the matter flowed; that is to say, whether from the urethra, or the corona glandis and inner surface of the prepuce.

Several punctures were made in the swollen part, and a large portion of blood and serum thus evacuated. A poultice was ordered to be applied to the part, and the patient directed to take ten grains of extract of poppy and one grain of calomel at bed time, with a purgative dose of calomel and colocynth immediately.

On the following day the appearance of the penis was much the same; the œdema was still very great, and the redness had extended. Upon making pressure on the glans, a bloody sanies issued. Mr. Morgan now freely divided the prepuce on its upper part, with a bistoury, which being done, he found the inside of the prepuce studded with small superficial sores. On the second day after admission, fifteen leeches were applied to the penis, in consequence of the redness still continuing, and a purgative powder of scammony and calomel was exhibited. The poultice was continued.

On the 4th of November, a decided amendment had taken place; the inflammation having much abated, and the edges of the divided prepuce manifesting a disposition to suppurate. From this period nothing material transpired; a solution of lunar caustic was ordered on the 10th; the parts went on gradually healing, and the patient was discharged, cured.

Case 2.—*Phimosis, with Inflammation more advanced.—Gonorrhœa, with Sores on the inner Part of the Prepuce.*

In this instance the inflammation of the integuments of the penis was of longer duration than in the former case, and probably it also existed in an aggravated degree, owing to some peculiarity of constitution, which was rendered apparent by the phagedenic condition assumed by the surfaces after dividing the prepuce.

J. P. ætat. 18, of spare habit, was admitted, on the 31st of October, into Samaritan's Ward. He had laboured under gonorrhœa upwards of eight weeks, and had had inflammation of the prepuce more than a fortnight; he had kept his bed during that time, but had no medical assistance. When admitted, the penis was very much swollen, and the integuments at the lower part were hard to the feel, as though lymph had been effused into the cellular tissue; the whole were of a dark red colour, and this extended some way down the penis. The phimosis was complete, not even the tip of the glans being perceptible; a profuse discharge issued from the end, when pressure was made on the glans. There was much febrile irritation, the pulse being quick and sharp, and the tongue furred. Mr. Morgan directed fourteen ounces of blood to be taken from the arm, and a purgative dose of calomel and colocynth, to be given directly. By means of a director and bistoury, Mr. Morgan freely divided the upper part of the prepuce, exposing the glans, which was of a dark red colour, as though it had been suffering from pressure: upon the corona glandis, and also upon the inner part of the prepuce, were numerous superficial sores, sloughy in appearance, and with considerable surrounding redness. A common poultice was applied.

November 2. There is much constitutional excitement; the pulse quick, and of that character which is aptly termed, irritable. The edges of the divided prepuce have a sloughy appearance, and discharge a sanious fluid. A grain of opium, with a grain of ipecacuanha, to be taken night and morning: a dose of saline mixture, with *twenty-five minims* of *tincture of henbane*, three times a day.

Under this sedative plan of treatment, the local and general irritability subsided: the sore assumed a more favourable aspect, and discharged a thicker matter. On the 7th, however, the surface of the sore was covered with a whitish slough, the parts around the edges were inflamed, and there was a hot burning pain felt. *A grain and a half of opium*, with a *sixth of a grain of tartar emetic*, to be taken at night, and the dose of henbane increased to *forty minims*.

December 11. The sore has been almost stationary since the last report. Continue the same treatment.

17. The wound very unhealthy in appearance, and disposed to increase. Ordered to apply stale beer-ground poultices.

27. From the last report the sore has been in a sloughy condition, and has increased; the pulse is now sharp and quick. Mr. Morgan directed ten ounces of blood to be taken from the arm.

The blood-letting was very obviously productive of benefit; the irritation and pain attendant upon the sore subsided, a healthy discharge took place, granulations formed, and the healing process went on uninterruptedly. On the 13th of December, when this report was concluded, the man was walking about the ward tolerably well.

CASE 3.—*Phimosis, from Gonorrhœa.—Inflammation ending in partial Sloughing of the Glans Penis, and Prepuce.*

In this case we have an instance of common inflammation of the integuments of the penis producing phimosis, and running on to gangrene; the glans penis also becoming involved from the constriction, produced in the first instance by the swollen teguments.

M. L., ætat. 25, a coal-heaver, accustomed both to drink and work very hard, stated on his admission that he had laboured under gonorrhœa upwards of a fortnight. About a week before admission the prepuce began to swell; but he continued his laborious employment, drinking as usual, and allowing the part to hang down. He came into the Hospital on the 3d of November, when the whole of the penis was found to be very greatly swollen, and the skin of a dark brown colour, amounting almost to black; the parts had evidently become dead; they were insensible; he evinced no pain on pressure over the glans, nor was he in fact conscious of the part being touched at all. The phimosis was complete; there was a profuse discharge from the urethra. The pulse was feeble, the countenance pale and anxious, the tongue furred and tremulous. Mr. Morgan freely slit the upper part of the prepuse, thus exposing the glans, the upper half of which was found to be in a sloughy condition: in making the incision through the integuments two arteries were divided, and they bled so freely that it was thought proper to apply a ligature to each. A stale beer-ground poultice was applied to the part, and nitric acid lotion (of double strength) by means of lint. A pint of porter daily; two grains of sulphate of quina, with an ounce and half of musk mixture, three times a day, and two grains of opium at bed time.

On the 6th of November, the slough of the glans, and also of the prepuce, had separated.—On the 10th, the sores were discharging healthy pus; the constitutional powers, however, being very feeble, the dose of quinine was increased to four grains. With this tonic plan of treatment, aided by a generous diet, the parts gradually healed, and the patient left the Hospital on the 12th of December, cured, but denuded of his prepuce entirely, and a considerable portion of the glans penis.

OPERATIONS.

Lithotomy by Mr. B. Cooper.—On Tuesday the 18th of December, Mr. Cooper performed the operation of lithotomy on a child about three years of age. The knife and straight staff were used on this occasion;—there were no particular circumstances attendant upon the case, and the calculus, which was removed without difficulty, was of the size of a hazel nut. The child, at the close of this report (Dec. 25th), is doing well.

Amputation of the Thigh by Mr. Key.—This operation was performed on Wednesday the 19th, in consequence of long-standing and incurable disease of the knee joint. Two lateral flaps were made, a mode of procedure now generally adopted at this Hospital in amputation of the thigh, and one which, as far as we have seen, answers admirably. In the process of healing, the cicatrix formed on the stump by the conjunction of the lateral flaps, becomes retracted, and a fleshy cushion is formed from the muscles, well calculated to sustain the weight of the body.

In Mr. Key's case, under consideration, it was noticed at the time of the operation, that the arteries of the limb were unusually large, but four or five ligatures only were applied. A few hours after the operation, hæmorrhage took place from the stump to such an alarming extent, that it was necessary to remove the dressings, and tie several arteries. In the course of the night profuse bleeding again occurred,—the dressings were a second time taken off and several vessels tied. Upon the whole, we believe SIXTEEN ligatures were put on the face of the stump—the vessels tied, as we understand from Mr. Key, were all *arterial*. On the 25th, when we last saw the patient, there had been no further occurrence of bleeding, and he was, upon the whole, doing well.

TO CORRESPONDENTS.

Mr. ROLF's Letter has been received, but we fear that it is too long for insertion.

Other Correspondents must stand over.